THE

British Medical Journal.

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

LONDON: SATURDAY, JANUARY 7TH, 1911.

A Post-Graduate Lecture

ON

THE TREATMENT OF VENOUS THROMBOSIS MAINLY FROM THE SURGICAL ASPECT.

DELIVERED AT THE LONDON SCHOOL OF CLINICAL MEDICINE (SEAMEN'S HOSPITAL)

BY

SIR WILLIAM BENNETT, K.C.V.O., F.R.C.S.,

CONSULTING SURGEON, ST. GEORGE'S HOSPITAL.

GENTLEMEN,—The point at which medical treatment in thrombosis ends and surgical treatment begins is a very difficult thing to determine. For thrombosis is one of those conditions which show quite clearly that a surgeon, if he is to effect much useful purpose, should be something more than a mere operator, to which there is rather a tendency to reduce him at the present time, because as much medical knowledge is required in its treatment as surgical, even when it is approached from the surgical aspect.

In considering thrombosis in the abstract, we must, of course, go back to the old and well-recognized fact that the two main factors in its occurrence are the state of the blood on the one hand and the state of the vessels in which the blood circulates on the other. Thrombosis, then, in normal veins is, in the absence of injury, for practical purposes, due to constitutional causes; that is to say, it is the result of the abnormal tendency of the blood to coagulate in normal vessels. On the other hand, in the case where the vessels are abnormal, it is, for practical purposes, a local condition, inasmuch as the coagulation of the blood is determined by abnormality of some kind in the vessels themselves. Whilst that is in itself a true enough statement, it is liable to certain limitations, for the following reason, and a very important reason it is. Given an abnormal condition of the veins, say, sacculation or roughness of the walls, blood in a normal state would be less likely to coagulate at that point than blood which is in even a very slightly abnormal condition so far as the tendency to coagulation is concerned. You cannot, therefore, in a condition of this kind, dissociate entirely, for practical purposes, the local condition on the one side, and the constitutional condition on the other, because the two conditions may to some degree coexist. In a large number of cases there may, in fact, be something at fault in both the vessels and the blood, and this must be borne in mind when considering the subject even from the surgical aspect.

The main conditions leading to an increased tendency to coagulation of the blood are hardly a subject for consideration here. You will find the tendency ascribed to many states, principally to "gout," though even in these times I hardly think we have an adequate idea of what gout is. There is a condition, no doubt, in which the blood becomes abnormally coagulable, and that condition can be modified, or negatived altogether, by certain treatments which are supposed to be good for what is called gout. But how far the condition itself is gouty, and how far it is not, I cannot pretend to say.

Thrombosis in normal veins is, all other things being equal, a more dangerous condition than thrombosis in a venous arrangement which is not normal, for the obvious reason that, supposing coagulation occurs in a vein which is normal, there is, seeing that the defect is in the blood, no reason why it should not increase to any extent or occur in veins in any part of the body. But supposing there is in any part a defective vein, rough or irregular, blood which is only slightly above the normal inclination to coagulability may clot on that local focus when it would show practically no tendency to clot elsewhere. So that in phlebitis of really normal veins there is always a possibility, and sometimes a probability, of the process occurring in some other, perhaps in several, parts of the body at the same time. When due to local conditions the chances are that the manifestation will be local, and that it can be dealt with by local means.

TREATMENT BY OPERATION.

This leads us to the following important point in connexion with the surgical treatment of thrombosis. In dealing with a case of thrombosis occurring in different parts of the body, or in different parts of the same limb, taking for example a case confined to the lower extremity, it is clear that the chances of doing away with the subsequent probability of clotting by any local treatment are small. If, on the other hand, the clotting takes place at one focus, and if when it recurs it comes at the same spot, or at least so near to it that it may be said to come within the area of the original phlebitis, it may be regarded as a local condition, and the tendency to further recurrence may be obviated by getting rid of the original focus of the clotting, which can only be done effectually by removing the portion of vein concerned, although it is said that the same result may be attained by opening up the vein at the spot and turning the clot out—a statement open to doubt. It seems, then, at first sight that the actual surgical treatment of thrombosis is narrowed down to a somewhat limited application, for the ideal case must be one in which the clotting is local and limited, and if in a case in which recurrence has happened, the thrombosis must be in the same place, or at all events in the immediate neighbourhood of the original attack. Under those circumstances there is no doubt that the tendency to recurrent thrombus can generally be obviated by removing the abnormal veins which originally excited the clotting of the blood in that situation.

There is another class of case of extreme interest in which although the indication for operative treatment is not so logically clear it can be adopted with much advantage.

It will occasionally be found that when a limited thrombosis (say, for an example, in the leg) is followed after apparent complete recovery by the occurrence of thrombosis in other parts, the first indication which the patient receives of coming trouble is some slight pain and tenderness in the spot originally concerned. The initial recurrent trouble is in fact at the site of the original thrombosis.

What the relation as to cause and effect may be between the slight recrudescence at the original site and the formation of thrombi in other parts it is unnecessary for my present purpose to inquire, but it seems to be a fact, and a very important fact, that in such cases further recurrences of clotting in distant parts may be avoided by removing the area originally attacked.

Some other cases, in themselves more grave but less

common than those just mentioned, occur in which surgical interference in thrombosis is not only justifiable but imperative.

There are two sorts of thrombi—originating as purely local conditions—which are dangerous. One (the kind which I have called "creeping thrombus") occurring in some superficial vein, will gradually travel towards the central parts—for instance, from the calf to the knee, from the knee to the thigh, and from the thigh, through the femoral vein, into the abdominal region. Under these circumstances, the vein being generally the internal saphena, if the creeping thrombus is allowed to get above a certain point, it will probably pass the saphenal valves and lead to complete blocking of the femoral vein, with all the troublesome disabilities and risks connected with it. The other dangerous condition is in connexion with the detachment of emboli; both of these types of case are at times amenable to surgical treatment. Let us suppose in any given case that a thrombus occurring, say, in the calf of the leg, extends rapidly towards the knee, and runs past the knee up to the thigh towards the saphenous opening, the question must arise as to the means available for preventing its passing further onwards and creeping through the saphenous opening into the femoral vein. The progress of such a thrombus may be rapid, in spite of medicinal and the usual local measures. In such circumstances operation may afford the only means of checking the extension. And, under certain conditions, operation is more urgently called for than in others. The creeping thrombus—"creeping" is a term which well describes it—is when occurring in a normal vessel checked in its progress for a short period at certain points, namely, at the valves of the vein. Operation in a general way is therefore not urgently called for until the increasing clot approaches the valves at the junction of the vein concerned with the deeper vessels. At the same time, if a thrombus of this kind is found to be travelling quickly, and seems to take less notice than usual of these valvular stops, it is without doubt the best thing for the patient that the vein should be at once interrupted on the proximal side of the clot, in order to prevent its progress upwards. It is a very good and simple operation, associated with no danger in itself; and in an ordinary case of clotting of the kind which I have in my mind it will, in the vast majority of cases, entirely stop the progress of the clot, and so render the patient safe from two possibilities—the creeping of the clot into the deep veins, and the possibility of the separation of a thrombus when the clot first pokes its nose into the rushing current of blood in the large vessel deep down in the limb. All this applies in the case of a normal vein.

In the case of thrombosis in a varicose vein the matter is somewhat different. The essential point of the ordinary varicose vein is inefficiency of its valves—the valves do not work properly, and may, indeed, for practical purposes, be non-existent; the flaps are not large enough, and, as a matter of fact, are often mere excrescences from the wall of the vein. In such a vein, large and valveless, extending, for instance, from the knee into the groin, the danger of the rapid upward progress of the clot is greater than that in a vein of which the valves are efficient. If in such a vein there exists a thrombus—as is not uncommon in the lower extremity—passing rapidly towards the groin, the best interests of the patient will lay with an interruption of the vein above the upper margin of the clot, keeping well clear of it, by dividing it between two fine catgut ligatures if there is sufficient room for so placing them, the thrombosed portion of the vessel being at the same time removed if it is not too extensive. I have, on more than one occasion, however, stopped the progress of the clot by merely placing a ligature around the saphena at its junction with the femoral vein, although the clot has been apparently almost projecting into the deep vessel; there has not been more than $\frac{1}{8}$ or at the most $\frac{1}{4}$ in. between the ligature and the upper end of the clot. An operation of that kind is only suitable for passive or non-septic clottings occurring in dilated and defective veins. The remarks just made must be held to apply generally to thrombosis which is not septic, in the ordinary sense of the word, and before leaving the consideration of this type let me remind you that any operation of this kind is inadmissible in cases due to anæmia, or after excessive loss of blood, in consequence of the liability of extensive clotting on the proximal side of the ligature.

When a thrombus occurring in a superficial vein is obviously septic, it should at once be removed with the portion of the vein concerned; but if this has not been done, and it commences to extend towards the central parts, immediate measures for stopping its progress become imperative, a matter which is not so easy as in non-septic cases for the following reasons: In non-septic thrombosis the vein wall is normal on the proximal side of the clot to within a very short distance of it—so short a distance, in fact, as to be almost inappreciable; hence a ligature may be applied almost if not actually touching the clot without producing a harmful thrombus on its proximal side. In septic thrombosis, on the other hand, the vein wall is involved in changes for a considerable distance above the clot; for an example, in the saphena in the thigh this implication would generally be not less than $\frac{1}{4}$ in. beyond the proximal end of the clot and in other vessels to a degree proportionate to their size, the larger the vessel the more extensive the area of implication of its lining membrane. Hence, in dealing with such cases by operation, a large interval must be left between the clot and the nearest ligature, for if this be applied around the portion of the vessel involved in the septic changes, the clot which forms on the proximal side of the ligature will almost surely be septic, which need not be the case if the ligature has been applied sufficiently far from the thrombus to include only a healthy part of the vessel. In all septic cases the thrombosed portion of the vein should be removed at the same time, the mere division of the vessel above the affected spot not being deemed enough unless the local conditions or other circumstances of the case render the larger operation unjustifiable.

Operation in Thrombosis with Embolism.

The most striking example of the effects of well-advised operation in thrombosis is sometimes seen in cases, usually septic, in which a thrombus is giving off emboli to the grave peril of the patient.

I have in my own experience had certainly three very remarkable cases in illustration of this. The first occurred in a man of middle age, who was the subject of a very large varix of the left internal saphena, which suddenly became blocked from the knee upwards for about 4 in. without any particular constitutional symptoms. Three attacks of dyspnœa occurred, the last of which was almost fatal. Each attack was followed by evidences of pulmonary infarct. As soon as possible after the third attack the saphena was ligatured, and the thrombosed portion rapidly removed; the patient made a capital recovery without further attacks of dyspnœa. The second case was somewhat similar, the thrombosis being situated in a large cystic development at the upper part of the external saphena below the popliteal space. Two attacks of severe dyspnœa happened—the thrombosed part was removed, and no further symptoms followed. The third was a septic case in a vein of the forearm following upon whitlow; two very slight attacks of dyspnœa occurred, and pneumonia followed. A third more severe attack of dyspnœa led to the interruption of the vein above the septic thrombus by operation, and no further evidence of embolism happened. It may, of course, be contended that the cessation of detachment of emboli in these cases was coincidence rather than the result of the treatment. Be that as it may, from what I have seen of cases of this kind, I should strongly advise radical measures in dealing with thrombosis of accessible veins under similar circumstances.

It is obvious that the treatment of thrombosis with embolism by operation must, excepting cases in which the internal jugular is concerned, be limited for the most part to superficial veins; the ligature, for an example, of the common iliac vein in femoral or iliac thrombosis may be regarded as outside the limit of rational surgery at present. The question must therefore from time to time arise as to the best means for dealing with those cases which are not amenable to surgical methods. Setting aside the use of vaccines, etc., in certain cases—the consideration of which is beyond the scope of this lecture—the most potent means of those suggested for the prevention of embolic detachments has been in my experience the free administration

of lactate or chloride of calcium, preferably the former. The treatment, it is true, of a condition due to abnormal clotting by a means which promotes further coagulation may seem at first sight paradoxical, but the good arising from the production of a more cohesive clot, although it may increase in size to some extent, is obvious, as the detachment of emboli is due to a certain brittleness or want of cohesion in the original thrombus which varies with the constitutional tendency of the patient and with the cause of the primary thrombosis.

THROMBOSIS NOT NECESSARILY SERIOUS.

It is well to understand that a thrombus is not necessarily in itself a matter of great consequence. The fear, amounting almost to terror, in the minds of the laity of "a clot of blood" in a vein is quite remarkable, and to allay this feeling is not always an easy matter.

Thrombosis occurring in a normal vein is always more or less serious, for reasons already indicated. On the other hand, in veins which are sacculated or pouched a clot may form which is of little importance apart from the discomfort which it causes and the occasional liability to localized suppuration. The most interesting point in this respect is the frequent occurrence of harmless clots in the veins of old people, especially in the legs. These thrombi generally form suddenly without the knowledge of the patient; they cause neither pain nor discomfort, although they may exist in considerable numbers.

An acquaintance with these "quiet thrombi" of old people is of some importance, as occasionally, either by accident or in consequence of some vague discomfort in the lower limb, or perhaps in the scrotum, a lump is found which if pressed sufficiently hard is tender, and which is clearly in a vein. Those unacquainted with the common occurrence of these quiet thrombi in the aged may attach unnecessary importance to them and possibly put the patient to bed or prescribe complete rest, when there is no necessity to interrupt the usual habits of life—a highly undesirable thing.

SOME POINTS RELATING TO THE GENERAL TREATMENT OF THROMBOSIS.

It is of course common knowledge that recovery from thrombosis so far as the local conditions are concerned occurs in one of three ways: By complete resolution of the clot, leaving the vessel concerned for practical purposes unchanged; by permanent obliteration of the vessel by organization of the clot which becomes a fibrous cord; and by temporary obliteration by organizing clot, the lumen of the vessel being subsequently more or less restored by canalization. The first of these is naturally the most satisfactory, but is open to the objection that during resolution of the clot, if very rapid, there may be a distinct danger of embolic detachment, especially in large vessels.

Whether the lining membrane of a vein becomes quite normal again after thrombosis is a matter for speculation, but seeing the undoubted tendency to recurrence of thrombosis at the same spot as the original development the presumption is that a complete return to normality is not the rule at all events.

Complete permanent obliteration is practically confined to small vessels, and in cases of varix is distinctly advantageous, as it may go far to modify in a favourable way the general varicose condition. In a case of complete obliteration of 4 in. of the internal saphena in the thigh which came under my notice, the result upon the condition of the limb was precisely the same as that which follows upon resection of a portion of the vein at the saphenous opening; and I have on two occasions known a varicocele to shrink to nothingness after thrombosis produced by injury. Moreover, whilst the rough surface on the lining membrane of a vein often left after the clearing up of a clot provides a focus for a further deposit of thrombus, I have not known thrombosis occur at the seat of permanent spontaneous obliteration of a vessel. Partial occlusion of large vessels after canalization of organized clot is common; it largely accounts for the bulky limbs following many cases of thrombosis after enteric and other fevers, and explains the persistence of aggressive distended collaterals in such cases; which, as I shall presently show, are manifestly unfitted for any operative treatment.

Granting the correctness of these remarks, the question arises as to the best means to promote rapid resolution of clot, and, although various methods have been advanced with confidence, I still find the older plan of compresses of lotio plumbi c. opio locally, with the internal administration of iodide of potassium or sodium with alkalis and a minute dose of opium, accompanied by the free consumption of fresh lemon juice, the most satisfactory measures. The popular local applications containing belladonna do not, in my experience, seem to afford any result at all proportionate to their messiness and unpleasant smell.

An apparently trivial, but in reality a very important, matter is the use of a proper judgement as to the kind of support for a limb when the patient first begins to put it to the ground after an attack of thrombosis. A support of some kind is generally necessary, at all events for a time. The characteristic of a limb under these circumstances is the rapidity with which it changes in bulk after having been dependent for a short time.

The support of all others to be avoided for a limb subject to much change in bulk in different circumstances is an elastic stocking; there are few contrivances which do more harm, unless used with discretion, than this; a very large percentage of cases of thrombosis, and of increase of varicosity in ordinary cases of varicose veins, are due to the ill-advised use of elastic stockings.

The best support for these limbs after thrombosis is a well ventilated bandage of the crêpe Velpeau kind, which can be applied without "turns" like a puttee, and can at any time be adjusted to meet the varying tension of the part. A rubber bandage is inadmissible, in consequence of the tendency to eczema, etc., caused by its impermeability to perspiration, although the objection to it is to some extent mitigated if it is perforated and worn over a thin cotton stocking. The mistake usually made in the use of these appliances is that they are put on too tightly. In connexion with this matter the following points are of some clinical value. When a limb which has been affected with thrombosis is first put to the ground or allowed to be dependent, the foot will either become red, altering to a mottling of red and white, which, after some time, may change to a dusky bluish colour, or it will become immediately bluish in aspect. In the former case, it will probably become icy cold in a very short time as the mottled look appears; in such a case care should be taken to avoid using anything in the least degree tight about the limb; the indication is rather to keep the part warm with the slightest possible pressure. When the aspect of the foot is immediately blue, there is usually some warmth, and uniformly applied soft bandage pressure will soon enable the patient to get about. The convalescence in the former type of case is always more prolonged. Some apology may seem necessary for such trivial details. These trivial matters are always, I think, more difficult to get information about than those of great importance, and I am sure that, as a rule, the greatest errors of judgement are made in the management of the convalescent stages of illness. It is rare to meet with a practitioner who cannot deal with a serious disease, especially if it be acute; but it is by no means so common to find every one so well acquainted with the various minor matters which contribute so largely in the convalescent stage to the ultimate recovery of the patient.

VARICOSITY CONSEQUENT ON THROMBOSIS AND ITS TREATMENT.

The immediate sequence of thrombosis is the establishment of a collateral circulation. In the case of the smaller superficial vessels the direct interference with the circulation by the thrombus may not be sufficient to produce oedema, and the attack may pass off without leaving any appreciable difference in the vascular apparatus of the parts.

Blockage, however, of main venous channels—say, for instance, the femoral vein—necessarily leads to immediate oedema of the parts below, which remains until either the collateral circulation is fully established or the lumen of the blocked vessel is sufficiently restored. In a considerable percentage of cases, either in consequence of the inability of the collateral circulation to meet the requirements of the case or because the restoration of the lumen of the blocked vessel is incomplete—in many instances no

doubt these two factors are combined—permanent oedema, or at least a tendency to it, remains.

The establishment of this collateral circulation involves, of course, extensive dilatation of the various anastomotic veins, which have no chance of regaining their normal calibre unless the lumen of the blocked vessel is rapidly restored, as it is a fact that veins, especially if superficial, when much distended for more than a very short period do not regain their normal condition, but remain tortuous and dilated, although the obstacle which led to their distension primarily has been removed. The degree of the varicosity thus arising will therefore depend upon two main factors—(1) the length of time during which the collateral channels have been subjected to obstructive tension, and (2) the amount of incompleteness in the restoration of the normal lumen in the blocked vessel. These two factors have very important bearings on the question of treatment. The amount of varicosity dependent upon the blocking of a large main vein cannot be determined until the oedema resulting from the obstruction has disappeared. It is very doubtful whether—rare instances being excepted—in complete blocking of a large vein like the femoral the natural lumen is ever completely restored, it certainly is not so unless the thrombus clears up rapidly. For practical purposes, therefore, it may be assumed that, in cases of varix following thrombosis, in addition to the results of distension during the complete blocking of the vessel there remains the necessity for some increased capacity of the collateral channels, because the vessel in which the blockage occurred has not resumed its complete carrying power. The most characteristic example of this type of varicosity is that which forms over the pubic and inguinal region after thrombosis of the iliac veins following upon enteric fever.

My excuse for dwelling upon these elementary points must be that it enables me to emphasize the fact, which seems sometimes to be overlooked, that dilated and tortuous veins, commonly called varicose, following upon thrombosis, are rarely suitable for operative treatment, since, as they are almost without exception acting as collaterals, an operation is invariably followed either by the appearance of similar veins or by the occurrence of a hard oedema of a very intractable kind. If this were generally recognized, patients would be saved from much disappointment and a good deal of uncomplimentary criticism of surgical methods would be avoided.

Speaking generally, the only conditions in varicose veins of this kind which can be operated upon with advantage are three—localized thrombus in some pouch or dilatation; trophic changes occurring in the skin about a sacculated or tortuous vessel; and localized pain such as sometimes occurs when a nervous filament becomes stretched or irritated by inflammation or rapid increase in size of a vessel with which it is in relation. In either of these conditions the removal of the portion of the vessels involved is a rational proceeding, which may indeed sometimes be urgently called for.

The position of massage in relation to the treatment of these cases is not, I venture to think, fully understood. As soon as the more acute stage of the condition in a case of acute blocking of a large main vessel has passed, when pain, local heat, and general pyrexia have disappeared, gentle shampooing, the part being raised, is an admirable method for hastening the disappearance of the oedema, and later on gentle skilled massage, to improve the general circulation of the part, is sound in principle and practice; but to attempt to reduce by vigorous massage the size of the dilated veins carrying on the collateral circulation is neither good in theory nor in practice, because although it may for the time being empty the obvious collaterals on the surface of the part, it necessarily causes so much tension on the deeper vessels running directly to the seat of obstruction that it leads to their further dilatation, and in the end increases the tendency to general varicosity of the limb. As a matter of fact, the most benefit derivable from massage in these cases is when it can be applied on the proximal side of the point of obstruction, as by increasing the vigour of the circulation the natural suction action of the venous current is increased, and the blood flows more freely from the parts below. In this way the tension in the collateral channels may be to some extent relieved without exercising pressure on their already weakened walls.

The treatment, then, of these cases after the patient is in a condition to be up and about largely resolves itself into the employment of gentle support afforded by well-applied bandages which should not be too tight, the blood flow being stimulated by voluntary movements and moderate exercise. In cases in which obvious oedema finally disappears, leaving the limb merely large, the supports, if they can be dispensed with comfortably, should be discontinued, and the general condition of the limb improved by intelligent massage.

In all instances of the kind under discussion the progress to as complete a recovery as is compatible with the circumstances of the case is vastly expedited by a course of douching, etc., at certain Continental watering places, of which Bagnoles de l'Orne is, in my experience, the most efficient.

In cases in which thrombosis occurs in a limb already the seat of varicose veins the relation of massage to the treatment is rather different. In such cases blocking of the deep main channels is comparatively rare excepting when thrombosis of a superficial vein is allowed to invade the deeper part. Thrombosis in cases of varicose veins is commonly confined to the superficial vessels, the deep channels being free; the use of massage, therefore, may be under these conditions used more freely than in the class of case just dealt with, because, the return of blood through the deep channels being unobstructed, damage to the smaller vessels is hardly likely to happen unless the vigour of the massage exceeds all reasonable limits.

But whether the case be one of thrombosis of a previously normal vessel, or of a part already varicose, no complete massage, in the ordinary sense of the word, can properly be used unless a free channel for the return of blood in the deep parts exists; to attempt to force a channel by massage in any way must, of course, be bad.

Technically, the best way to determine whether a case has arrived at a stage when massage can be safely employed with advantage is the following:

If, the patient having been previously in the upright position, when the part is placed in the horizontal posture the dilated veins empty themselves immediately—behaving, in fact, as they would do in an ordinary case of varicose veins—massage may be used with impunity.

If, however, the emptying of the distended vessels is slow, requiring, perhaps, gentle pressure with the hand to complete it, massage should be used with caution. If, after the part has been horizontal, or, better, a little raised on an inclined plane, for ten minutes or thereabouts, the dilated veins still show themselves distinctly, there is much obstacle to the return of blood through the deep vessels, and the case is one for very gentle shampooing only and bandage pressure.

NOT long ago we gave a short account of the results of certain researches on the etiology of beri-beri conducted by Drs. Henry Fraser and A. T. Stanton at the Institute of Medical Research in the Federated Malay States, which showed that a polyneuritis analogous to beri-beri could be induced in fowls by feeding them upon polished rice, but that this could be prevented if a certain proportion of the "polishings" was added to the rice, and they went on to discuss whether it was not possible that the disease was due to deficiency in organically combined phosphorus as suggested by Dr. Schaumann. In a recent paper in the *Lancet* (December 17th, 1910, p. 1755) this research is continued, with the result that analysis of the polishings of rice show that phosphorus was present in the form of phytin, the calcium magnesium salt of an organic acid containing phosphorus. They, therefore, prepared phytin, and added it to the polished rice, with the result that the fowls so fed developed polyneuritis, just as if they had received the polished rice only. They next found that when the polishings were extracted with 0.3 per cent. hydrochloric acid, and this extract was added to the polished rice, polyneuritis did not occur; and, further, when the phytin had been precipitated from the hydrochloric acid extract, the residue mixed with the polished rice prevented the occurrence of neuritis; but, so far, they have not been able to identify the active agent which averts the disease. It is apparently not a living ferment, as cooking the polishings in no way hinders their prophylactic efficiency.

A Lecture

ON

SOME OF THE RARER OCCURRENCES IN THE RHEUMATISM OF CHILDHOOD.

DELIVERED AT THE HOSPITAL FOR SICK CHILDREN, GREAT ORMOND STREET, NOVEMBER 3RD, 1910.

BY

F. J. POYNTON, M.D., F.R.C.P.LOND.,

PHYSICIAN TO OUT-PATIENTS, THE HOSPITAL FOR SICK CHILDREN, GREAT ORMOND STREET, AND UNIVERSITY COLLEGE HOSPITAL; PHYSICIAN IN CHARGE OF THE CHILDREN'S WARD, UNIVERSITY COLLEGE HOSPITAL.

I HAVE for some years now occupied these lectures in demonstrating various points in the rheumatism of childhood with the particular intention of strengthening the view that the disease is the result of an infection. Sometimes I have illustrated the nature and processes of the infection, at others I have attempted to explain the clinical course of the illness by the facts forthcoming from the study of the pathology. It has so happened that these attempts have come at a very opportune time—at a time when in this country the State has increased its vigilance in the control of the health of its school children. I believe that in the future, when the details and difficulties of this supervision are surmounted—as they assuredly will be—this development promises to assist the ever-pressing problem of the treatment of rheumatism. Already I find in my out-patient department evidence of this in the increased number of children who are referred direct from the schools for opinions upon their hearts, or for the warnings of chorea. I look upon the medical inspection of school children, then, as the first concerted step to deal seriously with the problem of rheumatism, because I believe the first step to successful treatment is an early recognition of the symptoms.

I believe, too, that the teachings of many distinguished physicians upon the various manifestations of this disease will now begin to bear fruit more rapidly, and I am glad that I have assisted in some degree by adding to their observations some data which help, I think, to strengthen their position. It is, in my opinion, important that the view that rheumatism is the result of an infection should be thoroughly accepted, for otherwise some of the early manifestations, and, above all, the importance of unhealthy conditions of the throat, will be overlooked.

Now in my lecture to-day I am going to deal with some of the less frequent of the rheumatic manifestations in childhood, founding my remarks upon a series of 600 cases that have been under my personal observation, in some instances for seven or eight years.

RASHES IN RHEUMATISM.

My first subject will be the rashes in rheumatism.

These are of considerable clinical interest, and you can readily understand that their occurrence has always been a strong argument in the hands of those who have maintained that acute rheumatism is an infective disease. It is not, however, in the out-patient department that we can study them best, for it often happens that they appear before the child comes first under our observation, or that they develop later after its admission to the hospital. In 600 cases of rheumatism I have on record 40 examples of the occurrence of a rash associated with other definite signs of the disease at the first visit. The usual forms, as you know, are urticarias and erythemata, the latter often circinate in distribution, sometimes tuberculated in character, usually multiform; sometimes they are very extensive in distribution, at other times very partial. They are often fleeting, and are thus easily overlooked. If you follow the history of intractable cases of rheumatism, you will find that such children may sometimes develop arthritis, or pains, or chorea, or, again, a rheumatic rash—that is, the rash may be the most definite evidence of a recrudescence of the malady. Sometimes these rashes appear over the flush area of the face, and, spreading over the nose, have a butterfly shape. This is a puzzling arrangement the first time that one is confronted with it, and we must not forget that this may be followed by desquamation.

Occasionally these erythemata and the associated symptoms are difficult to distinguish from scarlet fever, as in a case in which a mother reminded me that I had twice diagnosed scarlet fever, and, faithful to me though she was, she demurred at my third effort in this direction. Her attitude of mind was justified by the rapid appearance of arthritis and chorea for the third time. The desquamation is in these cases rapid in course and branny in character. The circinate variety is often called ringworm by the parents, but this mistake is not often made by the medical man who is acquainted with the rashes of rheumatism. You will find that some children seem to be more prone than others to these rheumatic rashes, and they may show not only at different times, but also simultaneously, rashes of different types. Thus erythema and purpura, and erythema, purpura and psoriasis, are combinations I have met with in my series.

This leads me to say a few words about psoriasis. The late Dr. Radcliffe Crocker called attention to its association with rheumatism, and I should like to give you a few illustrations from my own experience upon this point.

CASE I.

C. V., female, aged 11 years, who was subject to sore throats, came to the hospital in April, 1900, for arthritis. I found there were also early mitral endocarditis and fever. This child developed chorea in the following May and a guttate psoriasis of extensive distribution in June, from which there was slow recovery.

CASE II.

May, 1901. W. M., male, aged 9 years, had been subject to recurrent attacks of rheumatic arthritis occurring two or three times a year for the last few years. After the first rheumatic attack he developed his first attack of psoriasis. He came to me suffering from well-marked rheumatic arthritis and early endocarditis. From these he made a good recovery, but he later came to me again for a widespread guttate psoriasis.

CASE III.

November, 1902. A. S., female, aged 10 years, had an attack of rheumatism and chorea after scarlet fever when 5 years old. Simultaneously she developed psoriasis, and had had three attacks since. At 8 years she had a second attack of acute rheumatism. This child came to me with arthritic pains, an enlarged heart, and chorea. There was a well marked psoriasis of recent development localized over the lower extremities.

CASE IV.

In May, 1903, R. H , male, aged 11, came to the hospital suffering from chorea of moderate degree and of two days' duration, and a psoriasis, which had been coming out for two months, guttate in character. This boy was interesting, because he developed some enlargement of the thyroid and prominence of his eyes. His heart was dilated, and there was an occasional mitral systolic murmur.

In August, 1903, he had another attack of psoriasis without chorea until September, when once more chorea developed, this time with obvious heart disease.

You will find a strong family history of rheumatic fever in some cases of psoriasis which show no other more definite indications of rheumatism than sore throat, arthritic pains, and fever. These are, of course, not convincing, but they are suggestive, as are also the not infrequent examples of psoriasis appearing directly after an attack of scarlet fever. In one such case I saw erythema, purpura, and psoriasis all apparent in a child who was suffering from acute rheumatism associated with scarlet fever.

I have read in an authoritative article on *purpura* that its rheumatic origin is a myth. Now this is certainly an error. How many cases of purpura are rheumatic is a very different matter and a difficult problem, but that some of them are of this nature will be apparent from the following details.

I will commence with my most convincing and remarkable case. This was one that I published for Dr. D. B. Lees in the *Lancet*, October 28th, 1899.

A girl who at 12 years of age had suffered from chorea and at 15 from rheumatic fever came to St. Mary's Hospital at the age of 17 suffering from dyspnœa and purpura. Seven days before this she had developed a sore throat and arthritic pains, rapidly followed by purpura round the ankles. Then in sequence appeared severe carditis and arthritis, and meantime the

purpura became so extensive as to baffle description. Large sanious bullae developed over the back, and the chest, abdomen, and extremities were covered with large patches of haemorrhage. Upon two occasions the micrococcus of rheumatism was isolated from the blood. This patient eventually died from cardiac failure after recovering from the purpura and active rheumatism. At the necropsy I found a severe rheumatic carditis, but there were no internal haemorrhages.

I have seen severe cases since then, but none to approach this one, which has the advantage of providing a very fairly complete proof of the rheumatic nature of the purpura.

This tendency to purpura in rheumatism is to be expected from a study of the morbid lesions. In early rheumatic arthritis there is intense vascular dilatation and the exudation fluid may be haemorrhagic. The capillary blood vessels in the regions of nodules are much congested, as are the intramuscular capillaries in carditis and the vessels in the deeper layers of the pericardium in pericarditis. Although haemorrhagic pericarditis is not, to my knowledge, much dwelt upon in standard works upon rheumatism, it is not a very rare occurrence, as Dr. C. R. Box insisted in the recent discussion on pericarditis at the Royal Society of Medicine.

Other examples of purpura have come to my notice in acute rheumatism.

Thus, in a fatal case of carditis in a girl aged 9, a well-marked purpuric eruption developed a few days before death. In another milder case there was arthritis, endocarditis, and the well-known peliosis rheumatica. A fourth example, in which the purpura appeared in large patches associated with arthritis and endocarditis, occurred in a child whose sister was under me for rheumatism, and who simultaneously developed a recrudescence of rheumatism.

I have seen other cases in which it has been more difficult to assure oneself of the rheumatic origin of the purpura, but the circumstantial evidence has been very strongly in its favour, and in a long history of rheumatism purpura may be an incident pointing to activity of the process.

In rare instances a *pemphigoid* or *bullous* eruption has occurred, of which the following are examples:

In June, 1904, a boy of 8 years, subject to night terrors and sleep-walking, developed rheumatic fever with endocarditis, and at that time "blisters" appeared on the body, and were attributed to "uric acid." When I saw the child there was an apparently characteristic pemphigus upon the extremities, which gradually disappeared.

A second case was that of a boy aged 6½ years, who came to the hospital in 1901 for rheumatic arthritis and endocarditis. I saw him again for a relapse in 1902, when he developed a double mitral lesion. At the end of 1904 he again had an attack of multiple arthritis with a pemphigoid eruption upon the arms and knees.

Lastly, *herpes* may also occur during active rheumatism, and this irrespective of the use of arsenic.

I have already mentioned combinations of these eruptions, and you will sometimes notice that if hot applications used to relieve pain are placed over an area of acute rheumatic erythema the added stimulus of heat will convert the erythema into a purpura. Again, you may occasionally see a rheumatic nodule in the middle of a small purpuric patch.

Erythema Nodosum.

I have not mentioned erythema nodosum among these rashes, and I have omitted it because it is a condition about which, at present, there is no settled opinion. That it is a rash which tells of an infection very closely allied to the rheumatic, I believe to be undoubted. Sometimes it seems to me that erythema nodosum may be a result of various but allied infections, including the rheumatic. At other times I feel inclined to believe it is evidence of some special disease closely allied to, but not identical with, rheumatism.

There are many records, notably those of the late Sir Stephen MacKenzie, that make the intimate connexion of erythema nodosum with rheumatism apparent, and I will now cite a few cases that I have met with.

No. 1. A boy with fever, pallor, and erythema nodosum. This boy's father was subject to attacks of rheumatic fever.

No. 2. A boy with obvious erythema nodosum. His paternal uncle and aunt had both suffered from rheumatic fever.

No. 3. A girl who, in July, 1902, came for the characteristic rash, and at the end of September developed arthritis and purpura, without heart disease. This child's father died of rheumatism.

No. 4. A girl who was suffering from a sore throat, fever, and erythema nodosum, had a sister under me at that time suffering from chorea.

No. 5. A girl who had sore throat, fever, and erythema nodosum. Her maternal aunt had suffered from rheumatic fever.

No. 6. A girl who gave no rheumatic history.

No. 7. A girl who gave no rheumatic history.

No. 8. A girl who gave no history of rheumatism.

No. 9. A boy who gave no history of rheumatism.

No. 10. A girl who gave no history of rheumatism.

No. 11. A girl had fever, arthritic pains and enlarged heart, and erythema nodosum. Her mother was the subject of chronic rheumatism.

No. 12. A girl who was subject to sore throat and stiff necks developed erythema nodosum. She had mitral disease and was short of breath.

No. 13. A boy who came to the hospital for erythema nodosum had suffered from rheumatic fever at 2 years and at 9 years.

No. 14. A girl who had been under me for two attacks of erythema nodosum came to me in March, 1909, for what appeared to be an ordinary rheumatic erythema associated with severe heart disease.

I have taken these 14 cases consecutively, and they show that there is some close connexion between erythema nodosum and rheumatism, but the impression that I have in my mind is that the condition is possibly not a *manifestation* of rheumatism in childhood, and for this reason I have not included it among the rheumatic rashes. I think it is certain that heart disease is unusual in an ordinary attack of erythema nodosum, while it is, as we know, very frequent in true rheumatism.

Venous Thrombosis.

The next complication is one which I have only met with in severe examples of acute rheumatic carditis, and at the present time it is not decided whether the lesion is rheumatic in origin or is a mechanical result of the gross heart disease. This complication is thrombosis of large veins during acute rheumatism. In all the cases I have met with the vessels affected have been the large veins in the neck and upper extremities. This complication is not, I believe, very well known. Some twelve years ago I published for the late Dr. W. B. Cheadle and Dr. D. B. Lees three examples in the *Lancet*, and I have notes on several other cases since then. One of the three original cases may be looked upon as a classical example, for I was able to investigate it thoroughly, although, unfortunately, at that time I could not identify the micrococcus.

The case was that of a girl aged 9, admitted to St. Mary's Hospital for advanced morbus cordis, with active pericarditis and pleurisy, oedema and ascites. For a while there was improvement, and the oedema and ascites disappeared. Suddenly, while the temperature was subnormal, there supervened oedema of the right side of the neck and swelling of the eyelids and lips. Then the entire neck became swollen and tender, and first the right arm and next the left swelled. Lastly, the chest became oedematous, and the child somnolent and apathetic. Meantime general pericarditis had lighted up again, and the internal jugular veins could be felt as hard cords. Death rapidly followed. The necropsy showed active pericarditis and multiple endocarditis. The following veins were occluded by thrombi: Both subclavians and innominates, both internal and external jugulars, the inferior thyroid, both axillary veins, and the upper two-thirds of the superior vena cava.

Another case in a girl of 19, the subject of previous rheumatic endocarditis and pericarditis, showed thrombosis of both internal jugular veins and innominates, and partial occlusion of the superior vena cava.

The third case, in a young woman of 21, showed sudden oedema of the left side of the face. In this instance there was no pericarditis, but active endocarditis. The left internal jugular vein was closed by a thrombus at the lower end.

A fourth case was that of a boy, aged 8 years, who seven months before had suffered from chorea. He came under observation with active rheumatism, anasarca, and advanced heart disease. Sudden swelling of the right side of the face and right arm developed, with fever and some pericarditis; later the right internal jugular, subclavian, and innominate veins were apparently blocked, and the jugular and brachial could be felt as firm cords. This patient recovered, and left the hospital.

A fifth case, which was fatal, was that of a very fat and pale little girl, of 4½ years. She had developed an insidious chorea, followed by morbus cordis. When she was seen first, there was general pericarditis, with considerable fever. Death ensued rapidly, and the necropsy showed thrombosis of the left internal jugular veins, recent pericarditis, and multiple endocarditis.

I need not burden you with further examples, but wish to call your attention in these cases to the sudden develop-

ment of localized oedema, and when both internal jugulars are occluded you may mistake the swelling for a parotitis. There is considerable danger of cardiac embolism, symptoms of which were present in the first case I mentioned. In all the cases that I have seen there has been severe heart disease, and only two in my experience have survived. Oedema of the face in the heart disease of childhood is curiously frequent, and it is not at all uncommon for one to feel convinced that there must be renal disease. In my experience the urine does not bear out this suspicion, and we are still in the dark as to the real meaning of this symptom. I do not intend to suggest that venous thrombosis is the usual explanation, but would remind you that it is the explanation in some few examples. The most convincing proof of the occurrence of this thrombosis is the discovery of the tender, hard, cord-like veins, but the palpation should be cautious in case a clot should be inadvertently detached.

In a lecture such as this I will not enter upon the debated question as to whether a rheumatic phlebitis or thrombosis occurs in those cases, for these are questions which are not yet finally settled.

TACHYCARDIA.

The next condition I allude to is tachycardia. This is an occurrence of considerable interest. When we concern ourselves with rheumatic heart disease in adults, we recognize clearly that tachycardia is not an infrequent and is sometimes an extremely dangerous symptom in mitral stenosis. It appears to occur more frequently in mitral stenosis than in other valvular lesions, and may be paroxysmal in onset and character or more or less persistent. Further, it would seem that some cases are much more prone to tachycardia than others. With these points in my mind I have always watched for this symptom in children, and have assured myself that in some instances tachycardia may appear in the first illness, and may be followed later by mitral stenosis, and that when the stenosis appears you may then have a condition resembling the mitral stenosis and tachycardia of the adult. In such a case as this it is clear that the rapid action of the heart, although doubtless encouraged by the mitral lesion, is not in reality dependent upon it; and this in turn raises the question as to the explanation of tachycardia in mitral stenosis. I may at once say that I have never, up to the present, had a chance of examining a heart *post mortem* in a case of early rheumatic tachycardia, so that any explanation would be purely hypothetical.

I shall again illustrate these remarks by taking first a classical example of early rheumatic tachycardia.

This was the case of a girl aged 9 years who lived in a damp house near the Thames. For four months she had been noticed to be very nervous, and to have headaches, which were followed by chorea. When I saw her she had well-marked chorea, some dilatation of the heart, and a pulse varying between 140 and 200 to the minute. The thyroid seemed a little full, but I could not persuade myself it was pathologically enlarged.

In the hospital the tachycardia persisted. She was admitted March 2nd, 1902, and left in June, her rapid pulse persisting for some two months, the rate being usually between 120 and 180 to the minute. Throughout all this time there was not the slightest evidence of pericarditis and the child did not seem ill in herself, although an occasional faint systolic mitral murmur made its appearance toward the end of the period of tachycardia. Her teeth being in a bad state and the tachycardia persisting, many of them were extracted, after which she recovered, this being aided, possibly, by small doses of potassium bromide. The natural suggestion at the time was to attribute the tachycardia to a toxaemia from the unhealthy condition of the mouth, and she left the hospital with that explanation, I believe, generally accepted. The later history was, however, opposed to this, for her recovery was only temporary. In July, 1902, she saw me again, when her pulse could scarcely be counted, and in October she was very excitable, and there was a rapid, irregular cardiac action with heaving impulse, but there was no murmur or renal disease.

In January, 1903, there was improvement, but in June, after the house had been flooded during great rains, she developed rheumatic pains and tachycardia again. In the following August chorea once more developed, but there was still no obvious cardiac murmur. In 1904 chorea developed again, and now it was apparent that a presystolic murmur was appearing. Once more I saw this child in 1905 with chorea, an obvious double mitral murmur, and the same curious tachycardia. My last acquaintance with her was in June, 1910, when she came to a demonstration here. She was then 17, and in domestic service, with an enlarged heart and mitral stenosis. Upon any excitement the pulse rose to 150 per minute. This is really a very interesting case when you review the history over these eight years, and it is, I think, quite obvious that throughout that period there had been a remarkable tendency to a severe tachycardia, which dated from the commencement of her rheumatism.

I have no other example as complete as this, but a good many cases in which a remarkably excitable heart was a feature of the rheumatism.

In 1903 a child of 7, a girl, came to the hospital with a history of chorea of three months' duration, a very rapid heart and early endocarditis. After recovery from the active rheumatism, her heart remained rapid (pulse 110), although there was no murmur. A year later she had signs of early mitral stenosis, and four years after this I saw her again with chorea and well-marked mitral stenosis.

There is a very important group of rheumatic cases in which the myocardium suffers out of proportion to the valves and in these cases you will generally find tachycardia and irregularity are prominent. Such cases closely resemble the conditions that sometimes arise after influenza or diphtheria. In these there is generally considerable enlargement of the heart. Some of these cases of tachycardia make complete recoveries, as I have observed, after many months or even some years, but those in which mitral stenosis developed have, in my limited experience, always preserved a tendency to the rapid cardiac action. It is only natural to suspect hyperthyroidism in such, for we recognize a connexion in adult life between rheumatism and some cases of exophthalmic goitre. A good many French and of late some American writers have called particular attention to enlargement of the thyroid in acute rheumatism. I have also devoted much attention to this point, because it is one of the many interesting problems in rheumatism. We must most of us recall cases of exophthalmic goitre in adults who have developed the disease, as Dr. S. West has emphasized, after rheumatic fever, and who have in addition to the symptomatic tachycardia clear evidence of this rheumatism in well-marked valvular disease. Now, I have never seen the direct development of this disease after rheumatism. All the cases I have come across with a rheumatic history have shown a considerable latent period between the two illnesses. In childhood, again, I have never met with a case of exophthalmic goitre associated with rheumatism, and, although I have many times looked for a decisive enlargement of the thyroid gland during attacks of rheumatism, I cannot say that I have been able to convince myself that it is often affected. In a few instances, some five or six, I have noted a possible slight swelling of the gland, and in two cases children have complained of pain referred to the thyroid, but, as a rule, I have failed to obtain any evidence at all of damage.

It does not necessarily follow that the thyroid secretion may not be altered by an attack of rheumatism, but then again I am confronted with the fact that not one of the many cases I have seen has developed exophthalmic goitre in childhood. I must confess that my personal observations upon the behaviour of the thyroid gland in the rheumatism of childhood have been singularly barren in result, and for this account I have hesitated to ascribe early persistent tachycardia to any disturbance of this organ. The most definite associated symptom that I have found in these cases has been nervous instability. This instability is a well-known feature in the rheumatic, but I think it is more persistent and reaches a higher degree in these cases of tachycardia.

MASTITIS.

A symptom that I have met with in girls who have suffered from rheumatism has been tenderness and slight inflammation of the breasts. When mentioning this to my friend and colleague, Professor G. F. Still, he made the same remark from his independent observations. I mention it with reserve, for an individual experience is sometimes quite misleading, and those in wide general practice may be acquainted with such a phenomenon as not infrequent in many girls about 10 or 12 years of age quite apart from rheumatism. It is, however, a fact that I have met with it in hospital practice under these circumstances, and will give you some examples.

CASE I.

Hilda S., aged 11, subject to chorea and sleep-walking, whose father's family was strongly rheumatic, one uncle having died

of rheumatic fever, came to the hospital for pain and swelling of the left breast. The swelling had lasted a week, and there was tenderness and some hardness on examination. This symptom rapidly disappeared with the aid of mild aperients and warm applications.

Case II.

Anne M., aged 10 years, was under me at 7 suffering from rheumatism, with arthritis, chorea, and endocarditis. She made a good recovery, and had kept apparently free from any relapse. Her mother now brought her for pain, tenderness, swelling, and hardness of the left breast. There was definite evidence of her previous attack of rheumatism in an enlarged heart and a double mitral murmur. Her temperature was not raised, and the condition rapidly subsided.

Case III.

Florence M., aged 13 years, had been under my observation through two attacks of chorea, one at the age of 9 and another at the age of 10. There had been dilatation of the heart and arthritis, but a long rest in the hospital followed by a convalescent home had brought about complete recovery. Although over age, she was brought to me in 1909 with pain, tenderness, and swelling of the left breast. She had been free of chorea since her second attack, and had no symptoms of rheumatism.

Case IV.

Alice P., aged 10 years, had been under me at intervals for some years suffering from chorea, endocarditis, and arthritis. In October, 1910, she again came back suffering from rheumatic pains, with a well-compensated mitral lesion, and complaining of pain and tenderness of both breasts, which were harder than normal.

Three other cases gave almost precisely the same history. I am not, perhaps, justified in quoting these cases under the title of my lecture; but they have interested me because later in life I think dysmenorrhoea of a painful kind is not infrequent in the rheumatic.

Epistaxis.

Lastly, I should like to direct your attention to epistaxis in rheumatism. My attention was first called to this by a paper of Dr. Sydney Phillips upon the subject, and since that date I have learnt to appreciate its reality. Epistaxis may occur at the commencement of an attack, during the illness, or as incident in the more quiescent phases of a long rheumatic history. Exceptionally it may be very severe, but as a rule it is moderate in degree and not of any moment in itself. I would add that it is not by any means necessarily associated with obvious nasal disease, although I hardly think we lay sufficient emphasis upon diseased conditions of the nose in rheumatic children as a possible source of infection, in spite of the writings of Dr. C. R. Straton.

In this lecture I have dwelt a good deal upon haemorrhages in rheumatism, and I would add further to them the occasional occurrence of haematemesis. This I have only seen at present in grave heart disease, and it is possibly only a mechanical event, although in some examples it has also been associated with profound toxaemia and extreme anaemia.

It will need another lecture at least to complete the remarks that I have to make upon other of the less common occurrences in the rheumatism of childhood, and I shall hope to continue with them when the next opportunity arises.

Dr. Robert William Coe, of Clifton, consulting surgeon to the Bristol General Hospital, who died on August 11th, 1910, aged 89, left estate valued at £28,612 gross, and £27,485 net.

The Secretary of the Medical Missions Department of the Society for the Propagation of the Gospel in Foreign Parts asks medical men and women of Great Britain, who may not wish to preserve medical journals after reading, to consider the needs of the medical missionaries in the foreign field. He states that any journals sent to Miss B. Gambier Parry, Bacton, Wokingham, Berks, will be gratefully received, and forwarded without delay to a missionary doctor.

Clinical Lectures
ON
KIDNEY PAIN.

BY
E. HURRY FENWICK, F.R.C.S.,
PROFESSOR OF UROLOGY AT THE LONDON HOSPITAL; PRESIDENT OF THE SECOND CONGRESS OF THE INTERNATIONAL ASSOCIATION OF UROLOGY.

[*With Special Plates.*]

LECTURE I.

Gentlemen,—Although expert radiography has conclusively proved that calculous disease of the kidney is comparatively rare, the profession cling to the belief that any severe pain experienced in the region of that organ is due to stone. I suggest, therefore, that you consider with me this session the varieties of kidney pain and their approximate causes, and for the first step we will discuss that form most frequently encountered—the pain of a distended renal pelvis. It is probable, on physiological and on clinical grounds, that the kidney is only able to feel in two areas—the pelvis and the neighbourhood of the true capsule. Parenthetically, I may remind you that patients are very occasionally met with who do not have sensation in either area, and then crippling and progressive disease of the kidney may be painless from start to finish. As examples you may call to mind the hydronephrosis the size of a small football I operated upon a short time ago, the patient having no inkling that he was a sick man until a week before he was admitted here, when he noticed the increase in the size of his belly. Then, again, the largest stone I have removed from the kidney was fifty years in the organ without causing any pain.[1] Generally, however, there is pain in surgical kidney disease characteristic both in degree and place.

DESCRIPTION OF SPECIAL PLATES.

Fig. 1.—To show upper and lower polar aberrant arteries, and the area they affect.

Fig. 2.—Aberrant vessels to the lower pole underrunning the ureter and dilating the pelvis (Newton Pitt).

Fig. 3.—A one finger-tip pelvis (normal).

Fig. 4.—Kidney in section A one finger-tip pelvis in which one or even more papillae are touched, showing the commencement of the pelvic dilatation.

Fig. 5.—A two finger-tip pelvis, showing elongation of kidney and some dimpling of cortex.

I start with two aphorisms which I have taught here in the operating theatre since 1900. The commonest structural change accompanying kidney pain is a distended pelvis; the commonest cause of kidney pain is dilatation of the renal pelvis.

To prove my contention, I must refer to certain salient symptoms which afford a valuable clue to the existence of surgical disease of the kidney pelvis or cortex.

1. Excessive Thirst.

If you eliminate the thirst produced by certain poisons, such as sugar, alcohol, opium, chloroform, you will find that a consuming thirst is a danger signal in urology, because it is the first decided and noticeable symptom of uraemia, in that it appears before any alteration in the urine. Sir A. Clark,[2] one of our most revered teachers here, read a paper in 1884 on "Catheter Fever." He noticed that death occasionally occurred after using the catheter in cases of enlarged prostate, and he contended that this untoward result generally occurred in persons who appeared in perfect health, but whose urine was low in density. He considered such patients to have "renal inadequacy." Of course we had known for long that "renal inadequacy" was merely another term for a low form of interstitial nephritis, induced by prolonged back pressure exerted by an unrelieved bladder, and marked by filtration of water rather than the excretion of urinary salts; but we did not then know bacterial invasion was the fire which fell on the prepared "tow"—the weakened kidney. Even now the profession at large does not realize that this renal inadequacy is marked by *excessive thirst as an onset symptom*. This thirst is mostly due to diuresis—noticed or unnoticed. The symptom commences when the specific gravity of the urine is 1010, and it becomes very pronounced when it has sunk to 1004. It is then accompanied by a graver symptom of depreciated kidney

TO ILLUSTRATE MR. HURRY FENWICK'S LECTURE ON KIDNEY PAIN.

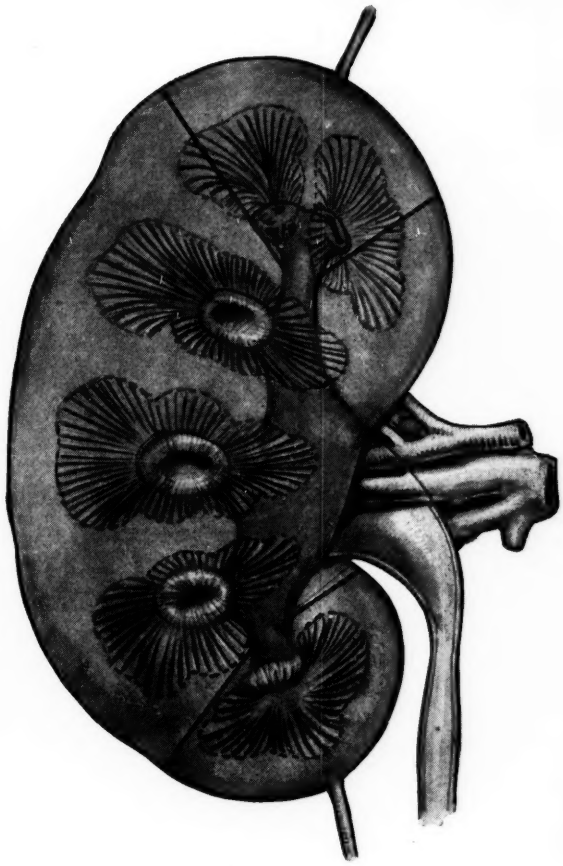


Fig. 1.

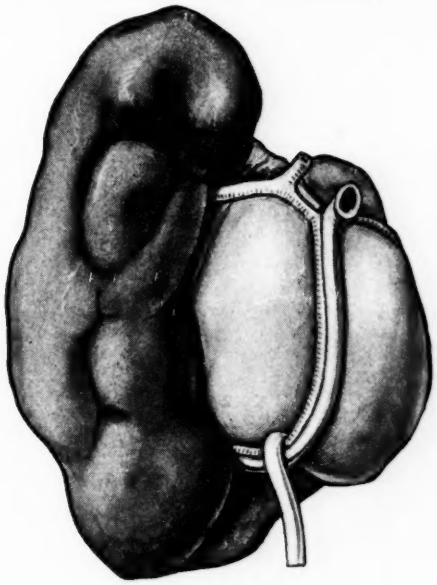


Fig. 2.

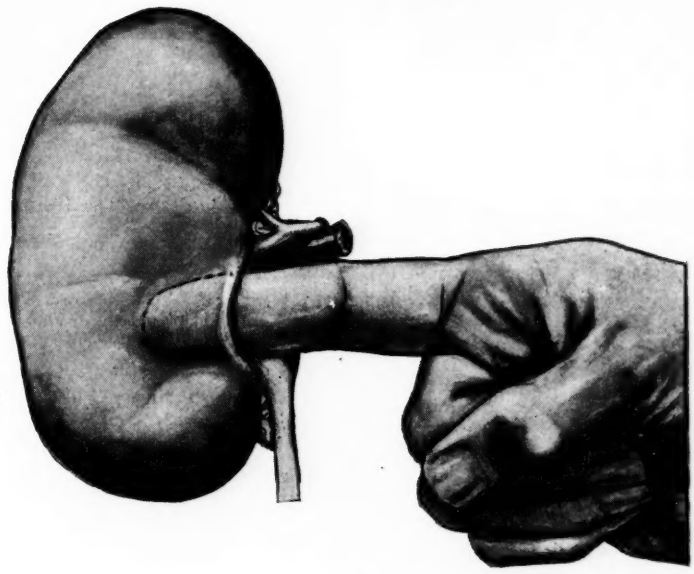


Fig. 3.

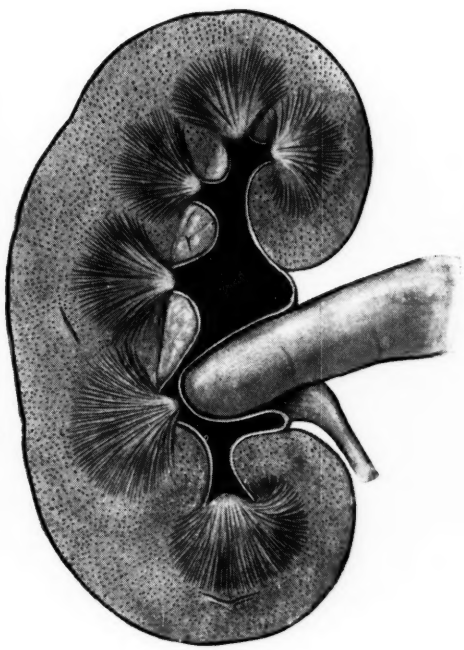


Fig. 4.

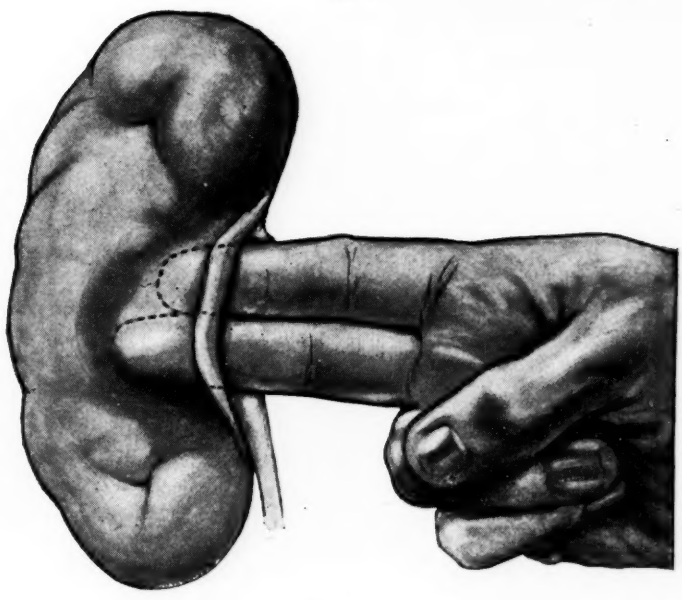


Fig. 5.

TO ILLUSTRATE MR. HURRY FENWICK'S LECTURE ON KIDNEY PAIN.

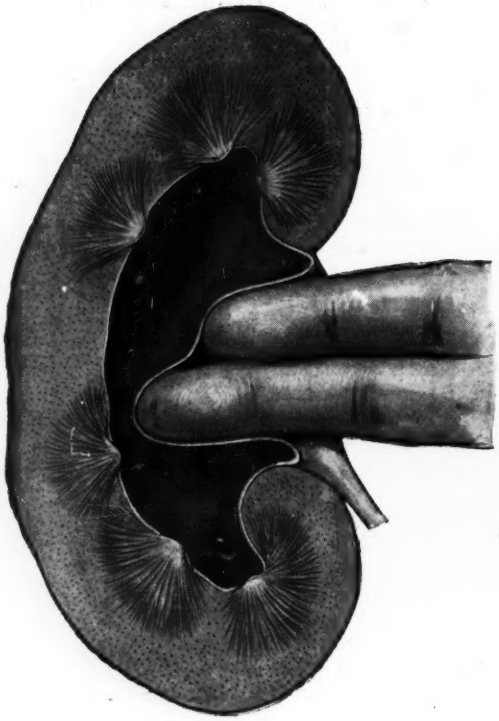


Fig. 6.

Fig. 8.

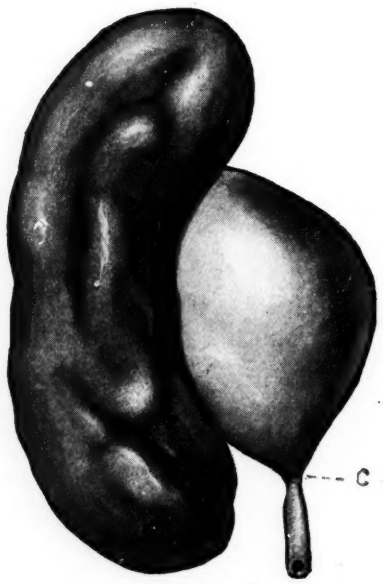


Fig. 7.

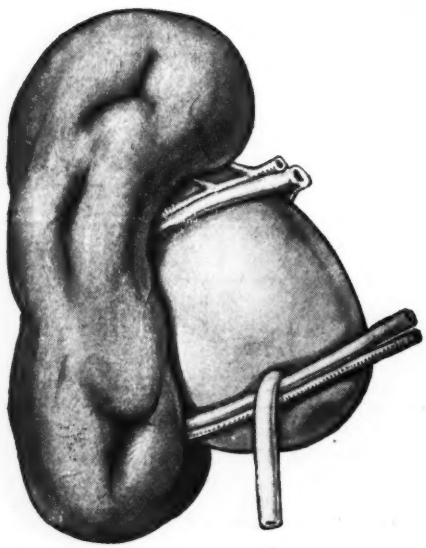


Fig. 9.

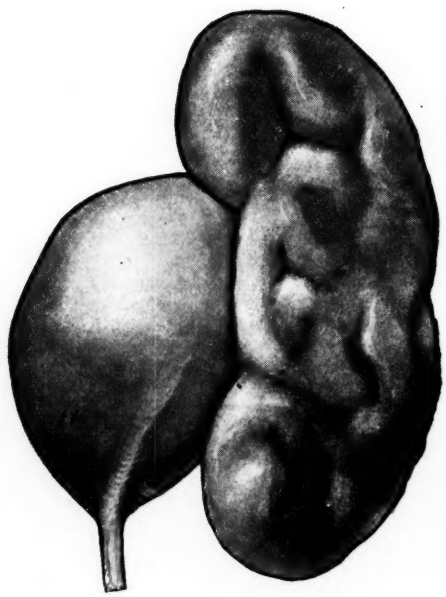


Fig. 10.

function—anorexia and sickness. It must also be remembered that the same symptom may be induced by inflammatory processes, acute or chronic, affecting the interstitial areas of the kidney. The thirst in this instance is due to the absorption of toxins arising from destruction of the inflamed area, and it is not, then, necessarily marked by diuresis or fever. If now we find excessive thirst with low specific gravity urine, we look with suspicion on the kidney function, and expect to find some interstitial pressure of that organ, or some recent inflammatory focus in its structure. Both these conditions may exist as the result of a distended pelvis.

2. THE POSTURE ADOPTED BY THE PATIENT IN SLEEP.

Very few sleep, as Confucius says, "on their backs like dead men"—most have a favourite side. I do not enter into the fascinating and far-reaching study of the predisposition to unilateral disease promoted by this habitual lateral attitude, I merely want to draw marked attention to the clue which a sleep posture may afford us in locating disease to the kidney.

In 1896[3] I raised this point and suggested that when a patient was forced to lie on a painful kidney in order to relieve pain, this attitude indicated a stone in the cortex of that kidney. I was wrong; I had only operated on 80 kidneys. I now know that a large percentage of patients suffering from pain in one kidney can only get ease at night by lying on that kidney—that this posture is adopted in order to keep the kidney at rest and thus prevent the cause of pain, whether it be a stone or a dilated pelvis, from moving with the kidney in respiration; also that this posture denotes an absence of cortical inflammation. I know, moreover, now that if the cortex be much inflamed and therefore adherent to the fatty capsule (corticitis), and in proportion to the acuteness of that inflammation, the patient *cannot* sleep on that kidney, but must turn to the opposite side.

Hence the axiom: If the patient is forced to sleep on the aching side, the kidney is still movable, and the pelvis is locally irritated. If the patient *must* rest on the unoffending side, the aching kidney is fixed and its surface is inflamed (corticitis). As a corollary, one of the first symptoms of return to health after removal of a stone from the kidney is that the patient can sleep easily on the unoffending side, and the marked sign of convalescence after a sharp attack of coli-bacillary nephritis of one kidney, in which, of course, the cortex has been involved, is that the power returns of sleeping on that kidney.

3. INTERMITTENT DIURESIS.

Aphorism: Intermittent diuresis marks some dilatation of the renal pelvis. If we are able to eliminate a dietetic and a cerebral influence on the urinary secretion, we possess an important clinical clue to disturbance of the renal vasomotor action in the filtration of urine, when marked intermittent diuresis occurs. A fair proportion of patients with renal pain complain of bouts of passing large quantities of water. I do not here concern myself with how this comes about. I press the remark home upon you that these rushes of urine have a distinct effect upon the capacity of the renal pelvis. Read carefully the pathological findings of cases of so-called diabetes insipidus in which large quantities of urine are secreted: you will notice how often the renal pelves and ureters and even bladder are dilated and their walls thinned. Judging by analogy, the large amount of work they are called upon to do has first hypertrophied and then thinned these cavities. Examine the pathological findings of a series of nephrectomized patients who have died, say, five years after their operation, you will find the pelvis and ureter of the working kidney are dilated. Given, then, a kidney which has bursts of secretory activity, and you will find operatively that its pelvis is always perceptibly dilated; and this I state on fifteen years' careful scrutiny of the renal pelvis in all cases I have operated upon.

From this subject we pass naturally to the next: the vasomotor irritation of the arterial supply of the kidney, producing intermittent diuresis.

We know that the amount of urine secreted rises or falls with increasing or diminishing fullness of the renal artery; even moderate compression of the artery in animals is followed by distinct reduction. Now withdraw your mind for a minute from the main source of arterial blood—the renal artery. Fix it on a small aberrant artery. We meet with these running either to the upper pole or to the lower pole (Fig. 1). Now mark this: They are not uncommon. The surgeon who works with a head lamp—and I have used artificial light in this way in every case for fifteen years—at once detects the aberrant artery and notes the condition of the cortex to which it runs. There is, I believe, a distinctive group of symptoms induced by the tug of an aberrant vessel upon the upper pole. I may say, if a kidney which has an aberrant vessel to its upper lobe becomes loose and intermittently drags upon this vessel, alternately stretching it and slackening it, that the secreting tubules of the area of the kidney which it supplies (Fig. 1)—and luckily it is a small area—become greatly altered in health, and the arterial anaemia may even be so marked as to induce corticitis, and thereupon pain, which is, according to the site involved, referred roughly to the liver or splenic area. I have also noticed attacks of polyuria and even thirst traced apparently to the influence of tension, or torsion, of these aberrant polar arteries.

We need not deal with the aberrant artery running to the lower pole of a movable kidney; it produces similar changes in the pole, and a specific form of renal pain. If we ligate these vessels and divide them, we render a small area anaemic and softened; but it finally scars, the pole becomes adherent, and the patient loses the characteristic pain. But, should the aberrant artery pass over or under the ureter near its pelvo-ureteric junction, and any sudden or gradual drop of the kidney strain the line of the artery taut, it not only starts inflammatory changes in the cortex, but—as we shall come to it immediately—it also induces dilatation of the pelvis, and this will be found a cause in 16 per cent. of all cases of primary pelvic dilatation.

DESCRIPTION OF SPECIAL PLATES.

Fig. 6.—Kidney in section. A two finger-tip pelvis, showing flattening of papillae.

Fig. 7.—Pelvo-ureteric junction kinked (c).

Fig. 8.—A three finger-tip pelvis, showing much hollowing of pelvis.

Fig. 9.—An aberrant leash of vessels running to the lower pole under the insertion of the ureter—severely bending the pelvo-ureteric junction.

Fig. 10.—A mal-inserted ureter running along the back of the pelvis, entering this cavity about its middle, after traversing its coats obliquely.

To sum up now these prefatory points. Thirst, with or without diuresis, rouses the suspicion that renal changes, generally bilateral, are present, and that there may be back-pressure upon the parenchyma of the kidney. Sleep posture may indicate a movable kidney with an aching pelvis if the painful side is slept on, or an inflamed fixed cortex if the painful side is avoided. Intermittent diuresis points to a dilated renal pelvis, and some interference by tug or torsion with the vasomotor influence of the renal vessels. These clinical findings, taken in conjunction, are of real inferential value. Now for our operative points.

THE OPERATIVE POINTS OF DILATED RENAL PELVIS.

I was much impressed in 1894 by a communication which Dr. Newton Pitt[4] made to the Pathological Society on the occasional presence of renal aberrant vessels, and their power of producing hydronephrosis (Fig. 2). The subject, it is true, was not original, but it had never been so clearly demonstrated. From that day to this I have never operated on a kidney without examining the capacity of the renal pelvis of the kidney I was operating on. If I found the slightest dilatation, I examined visually the pelvis and the ureter, and tried to determine the cause of the increased capacity of the pelvis. I was astonished to find that fully 80 per cent. of cases of marked renal pain, not caused by stone, tubercle or cancer, was characterized by the presence of a dilated pelvis. To me it was the hall-mark of renal pain, and I used to gauge the size of the pelvis by the number of finger-tips I could introduce easily into the renal sinus by rolling in that structure. Every house-surgeon I have had since 1894 has felt and confirmed this condition.

I learnt that the pelvis which admitted one finger was about normal (Fig. 3); if, however, it permitted a search of even one papilla (Fig. 4) it was *being* distended; the ureter in such a case would be *fixed*, but the junction of this with the pelvis would be softened and would easily bend on axial rotation of the kidney. The true capsule would be thin and the fatty capsule would be but slightly attached to the true capsule. I learnt that if two finger-tips could be admitted into the pelvis the kidney would be elongated (Fig. 5), the calyces would be wider than normal, and the papillae would be felt easily (Fig. 6), and their points would be flattened—all conditions pointing to back pressure—the pelvo-ureteric junction would be grooved by a kink (Fig. 7). The true capsule would be thicker than normal, but not adherent, and the fatty capsule firmly adherent to it in patches. Very soon I could tell from a mere glance at the cortex or a touch with the finger on it as to what degree the pelvis was dilated. If the surface of the kidney was deeply divided into lobules like a mammalian kidney, I knew it would dimple here and there under the pressure of my fingers, that the kidney would be much elongated, the cortex thinned, the true capsule more adherent, and the pelvis would admit, when the urine had been aspirated, three or four finger-tips (Fig. 8). I called these "canoe-shaped kidneys," from their fancied resemblance to that form of boat. I very soon learnt, moreover, that with a canoe-shaped kidney I was bound to find either a fixed *mechanical* obstruction to the pelvic orifice, just where the ureter joins the pelvis, or a ureter greatly dilated from some form of obstruction near the bladder. We will consider the latter in a lecture later on, and glance slightly at the obstruction at the pelvo-ureteric junction. This was either in the form of under-running bow-stringing abnormal vessels, 16 per cent. (Fig. 9), or a misplaced "malinserted" ureter, 8 per cent. (Fig. 10). I have never found a "congenital stricture or valve." I do not believe such exist, and I think the term will in course of time disappear from your textbooks.

My clinical inferences and operative interventions were as follows: A "one finger" capacity meant a very slight dilatation, and I searched for an upper polar artery to cut across, so as to prevent intermittent diuresis, and fixed the kidney to prevent any vessel drag.

With a "two finger," I tried to splint the weakened bend at the pelvo-ureteric junction with fat packing, with more careful fixation of the kidney, and by placing it more obliquely than normal (76 per cent. of cases).

With the more marked hydronephrosis, due to aberrant lower polar artery and vein, under-running or over-running the ureter at the pelvo ureteric junction—16 per cent.—I merely cut the vessels across between ligatures, and I was well satisfied to see the inner (aortic) ends disappear with a jerk, like a conjurer's coin, and the pelvic cavity commence emptying itself with a worm-like action. I then fixed the kidney.

If my patient came late—that is, with an infected pelvis, pyonephrosis, and an attenuated rotten parenchyma—I took the shell away.

If I found a malinserted ureter which ran between the coats of the pelvic cavity, I either cut its orifice out and stitched it into a hole in the pelvis lower down, or I repaired as in pyloroplasty.

You notice I say nothing about large hydronephrosis—feelable, and visible to the clinician—I do not include them; they are diagnosable, and form a clinical group to themselves. Of course these observations I have outlined to you were the first steps. They are charmingly crude and unscientific, but they saved many a dismal failure in the operative treatment of aching kidneys, and I advise you to follow them unless you are in a position to do expert work. Nowadays an expert can generally tell you before the operation, if the patient be a female, not only the capacity of the pelvis, not only the exact cause of the pain, but also the nature of the pelvo-ureteric junction obstruction, and whether rotation exists rather than a drop in the organ.

During the last decade, led by Kelly of Baltimore, the capacity of the renal pelvis in women has been gauged by means of the ureteric catheter. It can be done in men, but it is not so easy. The pelvis is injected through the catheter, and directly pain is evoked the amount of fluid used is measured, and the character of the pain caused by the distension is noted.

There is some difference of opinion as to the normal capacity of the renal pelvis, but it can be said with certainty that, when it contains over 2 oz., hydronephrosis exists, this being usually accepted as the proper standard. Kelly and others, however, affirm that anything over 3 drachms indicates a pathological condition, and Freeman has found, in numerous instances, that pain is produced in the normal kidney by the insertion of this amount of fluid.

Still more recently, as you will see by these beautiful radiographs, the capacity of the renal pelvis has not only been gauged, but also portrayed by injecting into it a solution of 10 per cent. of collargol (Voelcker, Braasch), or colloidal silver oxide (Uhle, Pfabler, Makinney and Miller), and then radiographing the patient (pyelography).

Axial Rotation of the Kidney a Cause of Ureteric Kink.

In my earlier work I suspected that much of the simpler forms of bent or kinked ureter was the net result of three causes: Some increase in the vertical mobility of the organ, some softening of a dilated pelvis, and some axial rotation of the kidney. I did not possess then, as I do now, the means of estimating accurately the amount of vertical mobility and the existence of axial rotation of the kidney before operation, so that my material is small, but I have no doubt my earlier convictions are correct.

The Character of the Pains Induced by Distension of the Renal Pelvis.

The pains—and I use the plural advisedly—are varied. Let us disassociate them and then combine them in our own mind for the clinical picture as a whole:

First, the pang of the sensitive orifice of the pelvis. This opening, like the other urinary orifices—namely, that of the lower ureter, of the bladder, of the membranous canal of the urethra—is highly sensitized. The pain which marks its mechanical abrasion, closure, or distension is felt in the hollow of the loin, just where an angle is formed between the last rib and the erector spinae. It is quite localized, and can be covered by the point of the thumb; it is stabbing and severe—often enough to make the patient vomit—but it merges into the discomfort which is due to the distension of the pelvis. This latter, if the pelvis is uninflamed, is a dull aching, diffused and covered by the hand placed on the same loin area—ileo-costal angle. As the distension increases so that the capacity of the pelvis is reached, the symptom most marked is that of abdominal distress—pain in the belly, generally over the front of the same side—and finally sharp renal colic, with all its characteristic symptoms. The attack, however, is shorter than real renal colic, for the pelvis empties gradually; the pain is under the control of hot application or hot drinks, or at most a little morphine suffices.

There is also a drag pain on the vessels in between the attacks—this is very definite in certain cases—but relieved in an hour usually by lying down, returning on rising. This pain is due, however, merely to the mobilized organ, and is relieved by a kidney belt.

With an infected pelvis a new form of pain is added, and when the inflamed pelvis is occluded the pain is agonizing. In addition to the local pain, the radiations go down to the groin and leg, and the relief from rest, time and morphine is less, for it depends on the subsidence of the actual attack of pelvitis. Generally with the infected renal pelvis, bladder symptoms are present also, such as frequency of urination, pain at the urinary outlet, and others, but we will consider those in another lecture.

As the pelvis gets larger, and the distension is more marked, we may get a characteristic sleep posture. The patient sleeps on the painful side, violent thirst is occasionally complained of, although only one kidney is affected.

You might remark: We do not need these extra clinical signs, the kidney must now be palpable and visible on the belly. By no means; if it were, conservative surgery would be too late; the kidney, though it has a distended pelvis, should be still unfeelable to the diagnostician. This is the time to interfere to save the kidney. This is also the dangerous time for the patient who, because no stone is seen in the radiograph, is advised to leave the treatment to medicine—a danger which Sir Henry Morris has so

ably demonstrated recently, and which I trust this lecture will also emphatically reflect.

Let me speak quite plainly. Any large, easily-felt hydronephrosis is the evidence of failure; any large, easily-felt pyonephrosis is the evidence of culpable neglect—both might have been avoided. Both will need mutilation, not surgery, for their cure, and if mutilation then curtailment of strength and life, in the place of that which early conservative surgery has in its power to confer.

REFERENCES.

[1] Taylor, BRITISH MEDICAL JOURNAL, 1910, vol. i, p. 1108. [2] Sir A. Clark. Discussion on Catheter Fever. *Edin. Med. Journ.*, April, 1884. [3] *Trans. Med. Soc.*, 1896, p. 9. [4] *Path. Trans.*, vol. xlv, p. 107, 1894.

An Address

ON THE

PREVENTION OF HEART DISEASE.

DELIVERED BEFORE THE ULSTER BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

BY

WILLIAM CALWELL, M.D.,

PHYSICIAN, ROYAL VICTORIA HOSPITAL, BELFAST; PRESIDENT OF THE BRANCH.

[DR. CALWELL, after thanking the members for electing him, and referring to the necessity of brevity and condensation in their proceedings owing to the very large amount of useful and important scientific work to be gone through, proceeded as follows:]

Many years ago I brought before the Ulster Medical Society a short paper on "Some Possibilities of Preventive Medicine." I was fresh from the study of Koch's work on tuberculosis, and citing what had been done in the past with regard to other diseases, I ventured on the hope that tuberculosis in time would slowly diminish to vanishing point as a national disease. To-day I might point to the tropics as well as to our own country as illustrating further possibilities and larger hopes. At home, amongst the most recent work, respiratory affections are being approached by the clinical bacteriologists, and a scientific knowledge of their cause may reveal the path of prevention or of cure. Cancer is slowly and stubbornly yielding up her secrets; but the darkest blot is undoubtedly the increase of insanity and weakmindedness. Despite the repeated warnings of our alienists, the public pay but little heed, and were it not for the more advanced educationalist the outlook would be indeed black.

In this light, a short investigation into the possibilities of the prevention of heart disease might be both instructive and interesting; and as I shall have to deal with some rather tiresome statistics I shall throw them upon the screen, and both save your patience and more clearly demonstrate the results.

First, we must study the extent of the problem. Out of a total number of 520,456 deaths in 1908 in England and Wales, 49,891, or 9.59 per cent., occurred from heart disease, or a proportion of 1 death in 10.41. In Ireland out of 76,891, 9,020 were due, or a proportion of 1 in 8.8; in Ulster 3,396 out of 28,696, or 1 in 8.4. We see, then, that heart disease is returned to the Registrar-General as a much commoner cause of death in Ireland than in England; that in Ulster it is slightly greater than the average of all Ireland.

TABLE I.—SHOWING NUMBER OF DEATHS DURING 1908 IN ENGLAND AND WALES.

Causes of Death: England.

	Males.	Females.	Total.
All causes	268,714	251,742	520,456
Heart diseases	23,918	25,973	49,891
Blood vessels	15,114	16,222	31,336
Rheumatic fever...	871	934	1,805
Rheumatism of heart	156	207	363
Tuberculosis (all forms) ...	34,182	21,898	56,080

TABLE II.—SHOWING NUMBER OF DEATHS DURING 1908 IN IRELAND.

Causes of Death: Ireland.

	Males.	Females.	Total.
All causes	38,219	38,672	76,891
Heart disease	4,401	4,619	9,020
Blood vessels	1,508	1,743	3,246
Rheumatic fever	91	70	161
Rheumatism of heart	21	37	58
Tuberculosis (all forms) ...	5,568	5,725	11,293

You see in Table II the number of deaths due to tuberculosis in all its forms, 1 in 9.2 deaths, and have thus a means of realizing the comparative mortality of two of the great causes of death.

Let us next examine the subdivisions given by the Registrar-General under the heading "Heart disease." We can understand the first six headings, but a moment's consideration will show us that the last heading must embrace a large number of undetermined causes; this is due partly to the laxity of present-day registration, and partly to inevitable inability to ascertain the exact cause. It probably embraces apoplexy, aneurysm; perhaps ruptured stomach or intestine; perhaps violence and poisoning. It is a huge collection of causes which it is impossible to analyse. For the present we must simply accept the heading, "Syncope, heart disease," but should keep in mind that in a large proportion the cause of death is probably due to some other affection than heart disease.

TABLE III.

Heart Disease: England and Wales, 1908.

	Males.	Females.	Total
Valvular	7,611	8,752	16,363
Pericarditis	237	195	432
Hypertrophy	181	85	266
Angina pectoris	617	312	929
Dilatation	1,670	1,685	3,355
Fatty degeneration	1,133	1,417	2,550
Syncope, heart disease (not specified)	12,469	13,527	25,996

TABLE IV.

Heart Disease: Ireland, 1908.

	Males.	Females.	Total.
Valvular	1,083	1,195	2,278
Pericarditis	13	15	28
Hypertrophy	18	4	22
Angina pectoris	59	23	82
Dilatation	126	124	250
Fatty degeneration	161	125	286
Syncope, heart disease (not specified)	2,941	3,133	6,074

Comparing Tables I and III and II and IV, in England and Wales you notice that the proportion of deaths from rheumatic fever and rheumatism of heart to deaths from all forms of heart disease is 1 to 23; in Ireland it is 1 to 41; Ulster is intermediate, 1 to 36. On the other hand, the proportion of valvular disease to syncope in England and Wales is 1 to 1.5; in Ireland it is 1 to 2.6. The Registrar-General in England draws attention to the fact that deaths registered as due to "valvular disease" are slowly rising in England but those due to "syncope" are falling. His interpretation is that diagnosis and registration is becoming more accurate, and so the vague general term is being less used. If this be correct, our diagnostic capabilities in Ireland or our care in registration

is below that of our English brethren. On p. cxvii of the English Report for 1908 we find it stated:

> The fact that the mortality from valvular affections and also from angina pectoris, dilatation, and fatty degeneration of the heart is apparently increasing from year to year must be considered in relation to the associated fact that the death-rate from indefinite forms of heart disease is decreasing.

In both England and Wales and in Ireland the deaths from rheumatic fever, acute rheumatism, and rheumatism of the heart vary but little. In England and Wales the crude annual death-rate from this affection per 100,000 persons living—because these three are but different terms for the same disease—from 1902 to 1908 inclusive, ran as follows: 8.4, 7.1, 7.0, 7.2, 7.4, 7.0, 6.1; this is decidedly lower than the decennium from 1891 to 1901; but any consequent fall in the ensuing valvular disease would not show itself for some years. I have to thank the Irish Register Office for the corresponding figures for the same years; they run as follows: 4.9, 4.8, 4.0, 4.5, 4.2, 4.9, 5.0 per 100,000 persons living. This proves that England is more subject to a fatal form of rheumatic fever than Ireland; so that we may claim perhaps that, if our diagnostic powers in heart disease are not so able as those of our English brethren, our skill in treatment of rheumatic fever is greater. However, it is a subject that undoubtedly requires further investigation and consideration, whether there be a fallacy or whether there be a real difference, and if so, what is the cause.

Leaving these heavy statistics, let us examine some local figures. I made a careful search through the cases labelled "Heart disease" in the Royal Victoria Hospital. During the year 1906 there were 95 cases; in 1907, 134 cases; and in 1908, 100 cases, or a total of 329. I divided them into three classes: (1) Those with a definite history of "rheumatism," 138; (2) those denying any history of "rheumatism," 107; and (3) those with an uncertain history, or where the notes were so incomplete as to be valueless for my purpose, 84. Before going further, it would be well to define clearly the meaning in which I use the term "rheumatism." As yet I cannot see that, clinically, we can go more fully or exactly in the case than to form three divisions to which the term "rheumatic" is popularly applied: (1) Acute rheumatism, or rheumatic fever; (2) fibrositis, popularly called muscular rheumatism, but which also embraces sciatica, lumbago, wry-neck, etc.; and (3) osteo-arthritis, or rheumatoid arthritis. In all, I have confined my attention to (1), or rheumatic fever; and where (2) muscular rheumatism, or (3) rheumatoid arthritis were evidently, or even most probably, intended, I have discarded the case. It is more than possible that as our clinical bacteriology advances we may have to modify this classification; but it forms a working clinical hypothesis. Such anomalies as "gonorrhoeal rheumatism" are taken as discarded by the profession.

This leaves us for examination 245 cases with fairly satisfactory notes; and we see that those with a definite rheumatic fever history are 56 per cent. of the total, and those without are 43 per cent.; so that of the 16,363 deaths in 1908 in England and Wales due to valvular disease (endocarditis, not infective), at least some 9,000 were due originally to rheumatic fever. No doubt some of these, if they had not been affected and cut off early from endocarditis and valvular disease due to rheumatic fever, would have become subject to valvular disease and endocarditis from other causes; still it is legitimate to put the statement in round numbers, and say that, instead of the deaths from rheumatic fever being some 2,168 in 1908, 12,000 would be nearer the actual fact. Indeed, as deaths from rheumatic fever seem more frequent in England, we might even increase this estimate. In Ireland the corresponding figures would be that, instead of 219 due to rheumatic fever, 1,500 would be nearer the truth.

If we investigate the age on admission we find that of those with a rheumatic history the maximum was between 20 and 29, and 75 per cent. were between 10 and 39. Of the non-rheumatic history admissions the maximum number lay between 40 and 49, and 60 per cent. were between 30 and 59 years. When we consider that a great number of people have had rheumatic fever in childhood of which they absolutely remember nothing, and so deny having had it, we clearly see that there are two chief divisions which embrace probably 90 per cent. of the whole—namely, endocarditis and valvular disease, due to previous rheumatic fever occurring earlier in life, and, secondly, those with a degenerative valvular disease occurring twenty to thirty years later. Of this second or degenerative form it is impossible to form accurate or even approximately reliable statistics as to cause. That due to pure old age is seldom admitted to our hospital; alcoholism is admitted in a large proportion of cases; indeed, if we took our notes literally it would be the only one practically present; but excessive physical strain, especially under the influence of mild doses of alcohol, or after its effect, is probably even more common. When combined with syphilis the picture is complete. The discharged soldier with his five years in India, his syphilis, his alcoholic habits, his gallant attempt to undertake the heavy work of a shipwright, his thickened pulse, atheromatous aorta, and failing heart, is a familiar picture; he is a "done man," to use his own expressive phrase, at 45.

Let us now attempt an estimate of the chance either of prevention or of abortion of the various kinds of heart disease; we shall adopt a clinico-bacteriological or pathological basis for our divisions.

1. *The Infective Endocarditis Group, not Rheumatic.*—This is at present a small group, but as our bacteriological knowledge becomes more exact and complete it will grow. Several microbes have been found, and it is more than probable that several vague cases of illness, sometimes ending fatally, occasionally recovering, with an impaired heart, will be found to be due to a microbic infection. But we can simply hope that in future the path of entrance may be discovered, and so the invasion may be stopped, or that a vaccine may cure. The bacteriological examination of 10 c.cm. of blood from a vein is daily yielding fresh knowledge, and occasionally the evidence points to the curative effect of a vaccine prepared from the special strain. The peculiar inroads of the *Bacillus coli* into the urinary system, accompanied by fever, etc., is probably sequent to a general systemic infection, and a full investigation of all analogous attacks will do much to teach us something of infections where the endocardium is attacked. As our surgeons formerly appealed to an early resort to surgical aid in cases of strangulated hernia and perforated gastric ulcer, against the delay which often ended in the patient becoming moribund, so I would strongly now urge an early recourse to the clinical bacteriologist when the vital powers are still capable of reaction.

2. *The Rheumatic Fever Group.*—This is a large—the largest—division. We know much of the natural history of this fever, but it has not enabled us to stop its ravages. The bacteriology is still in dispute, and its study remains barren. Notification of its presence and immediate investigation of the surroundings would help; and some such measure seems necessary, if we are to ascertain its frequency. In a disease that is in itself seldom fatal, but so often leaves fatal effects behind, we want the earliest intimation, not the results of a necropsy, or the ascertainment of the presence of heart disease ten years afterwards. Therefore, although we are on the tiptoe of expectation for some beneficent discovery fresh from the forge of the bacteriological laboratory, we cannot postulate any preventive measure which will either in the near or distant future rid us of this affliction. It was hoped that the salicylate treatment would lessen cardiac complication—no proof of this exists; we simply can neither affirm nor deny that there is a diminution; the evidence to come to a conclusion does not exist. It is common experience to find, however, that a case benefits considerably at first by the salicylate, and then hangs fire, with mild exacerbations even under heavy dosage occurring alternately with periods of improvement. This condition reminds one closely of the recorded effect of the arsenic preparations on the trypanosomes, where the parasite develops an immunity to the remedy. The salicylates seem to lose their power, or the problematical microbe perhaps develops an immunity. Accordingly I would suggest the experiment of large and heavy dosage in the very early days of the disease. Such few cases as I have had any approach of an opportunity to try this method in have answered well, although I can neither claim I have aborted the disease or prevented heart complications; but the cases have not been seen early enough, and the circumstances were not such as to permit of a satisfactory trial. The conclusion, then, as regards

heart disease arising from rheumatic fever to which we are bound to come is not on the same hopeful lines as is tuberculosis. In this latter affection we know the problem, our information is exact, we understand what is to be done, and we can say with confidence that if the nation were to adopt the necessary measures tuberculosis would disappear; but the task is so stupendous that only by slow degrees can any improvement come; a complete radical attempt would induce a revolution. In rheumatic fever our knowledge is inexact, incomplete, perhaps even misleading. The individual may receive the advice to avoid chills, wettings, exposure, overexertion. Such advice to the nation means a higher civilization. Pure clinical study has had its innings. We must await with reverence the work of the laboratory clinician and vivisectionist.

3. The third group I shall mention is a somewhat vague but still a very real one. It includes that form of heart trouble due not infrequently to exertion undertaken while out of training, or immediately after a full meal under the popular idea that it was "working it down"; or while recovering from some of the minor infections, such as influenza, common cold, where the heart muscle was still suffering from the toxin; or in chlorosis, as a chlorotic girl's first day on the links in spring. Sometimes permanent dilatation and incompetency is left, even leading years afterwards to sudden death. In this type we cannot hope for much prevention—so much depends on the intelligence and education of the patients themselves—but its increased recognition, both by the community and by the profession, would undoubtedly lessen its incidence.

4. We now come to the great group of the degenerations. It would be useless to speak separately of angina pectoris, of fatty degeneration, of arterio-sclerosis, of atheroma, of valvular thickenings and degenerations. Our knowledge of the broad natural history of these affections is extensive, but it has not told us yet why better rubber is put in one person's arteries than in another's, and why the webbing of the aortic valves in one person is less easily and less early irritated and degenerated than in another. We can, however, mention some causes that undoubtedly induce early degeneration, and affirm that a legitimate hope exists that these causes are being, and can be still further, lessened.

(1) Alcoholism. Heart trouble arises both from excessive consumption of beer—Munich heart, Tübingen heart, draymen's heart—and also from the toxic effect of the alcohol alone, as in whisky drinkers. Now the nation's bill for alcohol has fallen steadily from £185,927,227 in 1899 to £161,060,482 in 1908. Again, Horsley and Sturge's diagrams of the relative consumption of alcohol and of milk in seven of the large London hospitals point to a very decided diminution in the use of alcohol as a medicament; and lastly, a chart giving the amount of alcohol per 100 patients in the old General Hospital, Belfast, from 1851 to 1858, with the mortality of the medical patients, and the same curves for fifty years later (1901 to 1908), demonstrating a greatly reduced alcoholic bill and a lower mortality.

But it is not so much the question of pure alcoholism as of alcoholism combined with physical strain, such as we see typified in soldier and shipwright. Nothing seems to bring degeneration to heart and blood vessel so early and so hopelessly as excessive physical exertion, while the system is still poisoned with alcohol and the arterioles are still dilated, allowing a runaway heart to expend itself against an unprotected capillary. Hope here lies in a higher civilization and better education, when the citizen will be taught the rules of the game of life. Under this heading we may well include overeating, and the undue nervous strain of the day so fertile in worn-out hearts.

(2) The next cause is syphilis, but its injurious effects are chiefly felt in the vessel, not in the heart. However, such effect as it has we have legitimate hope of lessening—first, by the adoption of preventive measures, such as we see succeed in the navy; secondly, by the power of aborting the disease by Ehrlich's new remedy; and, thirdly, by the slower development of a higher civilization.

Prevention of heart disease thus embraces (1) more accurate registration of deaths, so that the huge group labelled "syncope" may be analysed; (2) the labours of the clinical bacteriologist to teach us what is rheumatic fever and how we may prevent it; and (3) lastly, a spread of real knowledge and education, so that men may learn not to treat their heart and blood vessels as a careless and reckless schoolboy treats his bicycle, but as a skilled engineer treats a strong yet delicately balanced piece of complicated mechanism that reacts quickly, silently, mysteriously to every touch of the skilled hand.

THE TREATMENT OF RODENT ULCER.

BY

E. GRAHAM LITTLE, M.D., F.R.C.P.LOND.,

PHYSICIAN IN CHARGE OF THE SKIN DEPARTMENTS AT ST. MARY'S HOSPITAL, AND THE EAST LONDON HOSPITAL FOR CHILDREN, SHADWELL.

THE treatment of rodent ulcer has undergone very marked changes in the past decade, and it is probable that comparatively few cases are now treated surgically as compared with even as short a period as ten years ago. As a consequence of the newer physical methods of dealing with this disease, which are much less terrifying to the average lay mind than a surgical operation, the treatment is usually now commenced at an earlier stage, and one seldom sees the ghastly mutilations which were not infrequent when surgery was the only effective means, and when, therefore, patients often preferred to let the disease take its course. This was not surprising, inasmuch as rodent ulcer most commonly appears on prominent parts of the face, where the scarring from operation, which was necessarily widely beyond the limits of obvious disease, caused great and often hideous deformity.

I. TREATMENT BY CARBON DIOXIDE SNOW.

I have had an opportunity of testing the application of carbon dioxide snow, and of ionization, in a series of cases of rodent ulcer, both in hospital and private practice, and am much pleased with the results. With the exception of a short preliminary note on this treatment by freezing of three cases of rodent ulcer by Morton,[1] I have not seen any record of the use of this method for rodent ulcer, and my personal experience, which dates from July 14th, when I treated my first case, recorded below, may be encouraging to others.

Preparation of Carbon Dioxide Snow.

So many methods have been described that I should perhaps apologize for including details of the procedure I adopt. As, however, I have found that medical practitioners still meet with difficulties in its preparation and use, I may be pardoned for making the following preliminary remarks.

Carbon dioxide gas can be obtained readily enough from various manufacturers, its use being widespread for producing soda water. Large or small cylinders can be obtained. To the vent of the cylinder I have had fitted a small brass nozzle, about 2 in. long, which makes an adaptable support for whatever device is used to collect the snow. The quickest, most economical and satisfactory method I have found to be the blotting paper mould introduced by Tousey.[2] A rather thick blotting paper or filter paper is used; a piece about 6 in. square is taken, and rolled round a thick pencil or rod of the same calibre as the free end of the brass nozzle. One end of the roll of paper so formed is folded so as to produce complete obstruction, and the roll is then bandaged closely over, leaving two free ends of bandage, with which the roll is eventually attached to the neck of the cylinder. The bandaged roll is then slid on to the nozzle and tied tightly over it and round the cylinder; the stopcock is slowly turned on, until the nozzle is quite cold and covered with frost, when, with a few more sharp turns, the gas is released under greater pressure, and the roll can be felt to harden under the finger. The cylinder should always be supported with the neck lower than the base while the snow is being collected. When the desired quantity has been obtained the stopcock is turned off, and the roll, filled with hard snow, is removed and the bandages and blotting paper peeled off, exposing a stick about the size and thickness of the little finger. For many purposes this is sufficiently compressed, but for rodent ulcers, where

much pressure should be exercised, it will require greater density. To effect this the stick is introduced bodily into a hardwood mould with a well fitting wooden plunger.* The stick is then broken up inside the mould by a series of sharp taps with the plunger, and then rammed down by striking the plunger with a wooden mallet. A stick about an inch long and hard enough to trim and cut to any desired smaller size or shape is thus usually obtained. In order to handle this without risk to the operator several folds of cotton-wool should intervene between the stick and the hand; the free end, uncovered by wool, is applied directly to the part to be treated.

I have, I believe, found it useful to prepare the surface by making the patient wear over the part for three or four days prior to the freezing a salicylic acid plaster (25 per cent.). If there is much scabbing, it is best to remove the scab (which the plaster effects), and to have a clean area to treat. Bleeding may be checked by swabbing the surface with adrenalin, but the freezing will usually have this effect by itself.

The pressure to be used and the duration of the application will depend on the thickness of the skin and the depth of ulceration. My average time has been twenty to twenty-five seconds, and the pressure as firm as the patient can stand. Where the ulcer is situated directly over bone, the pressure can be very firm, and the time may be shortened; in positions where there is less resistance to the touch the time will require to be longer.

No pain worth troubling about is felt during the application; the pressure exerted, indeed, seems to be the part of the procedure most disliked by the patient. In a few minutes, however, after thawing, the smarting commences, and may persist for a couple of hours; its duration and degree may, perhaps, be shortened by the application of warm compresses immediately after the freezing.

When the operation has been properly performed, the ulcerated or infiltrated area is entirely swallowed up in the depressed cup in the skin produced by freezing, which should extend beyond the actual seat of disease by about one-eighth of an inch. Occasionally, when the ulcer is on a part of the integument with much subcutaneous cellular tissue, there will be considerable oedema and disfigurement, since the eye and nose are usually near neighbours of the lesions. Patients should be warned of this, and that it is quite unimportant. The treatment of the part after freezing consists in applying either lotions or ointments; the former if there is much oedema, the latter if there is not. Saturated boracic fomentations or boracic ointment may thus be used. One application of freezing for twenty seconds may be sufficient, but much more commonly two or three or more will be required, and these are best given at intervals of about a week. The indication for ceasing treatment is found in the disappearance of the hard cartilage-like tissue characteristic of rodent, and the closure of the ulceration. The scar is surprisingly inconspicuous and like natural skin. I have repeatedly invited a large class of students to identify the site of an ulcer thus treated, three months after treatment, and they have rarely succeeded in doing so.

II. Treatment by Ionization.

Freezing is so convenient of application, so painless, and so rapid that it has, to a great extent, replaced with me the procedure by ionization. This, however, may, at times, be the more convenient method for the practitioner, who will almost certainly have an active galvanic battery at hand and may not be so likely to have a cylinder of gas. It is also an alternative which may actually be preferred, as it certainly produces less immediate disfigurement and, I believe, is equally efficacious, with an equally happy cosmetic result. This, at any rate, was the verdict on two cases which I showed to the Harveian Society, one treated with carbon dioxide and one with ionization (recorded below).

The method may be described briefly as follows:

A galvanic battery of 20 to 30 cells will be needed, capable of producing 5 to 10 milliampères of current with the patient in the circuit. Electrodes of *pure* zinc, graduated in size to the lesion to be treated, are attached to the *positive* pole of the battery, and the metallic surface covered with four to six folds of gauze, saturated with a solution of zinc sulphate (2 per cent.) in distilled water The patient will hold the negative electrode, which is most conveniently cylindrical. This must also be coated with clean gauze soaked in warm saline solution. The current is turned on cell by cell until the galvanometer reads about 5 to 7 milliampères, and kept at this strength for from twenty to thirty minutes (according to the thickness of the skin), and then turned off cell by cell. The application is sometimes somewhat painful, but if the precaution of *gradual* addition and removal of current is observed, the pain is much diminished and quite bearable. The immediate effect is a slight whitening and depression of the part treated, which soon passes off; a scab will probably form on the part some hours after and remain for a couple of days or more; treatment can be undertaken again, when necessary—usually within seven days.

Cases Treated by Ionization.

1. Edward D., aged 42, sent to me by my colleague Mr. Pepper, who regarded the condition as "early rodent." The patient had had a flat, slightly pigmented, warty growth under the left eye for twenty years; latterly it had begun to grow larger, and was beginning to be felt uncomfortably. When seen he had a flat, pigmented warty growth, about ¾ in. by 1 in., with no symptoms of ulceration, but the history of increase in size and thickness suggested possible malignant changes, and it had been proposed to excise the affected area. I suggested trying him first with ionization, and this course was agreed upon. I caused the patient to wear a salicylic acid plaster (25 per cent.) for a week, and then gave him two treatments of zinc ionization of twenty minutes at a time, and separated by a week. He came to see me a month later, and the growth had entirely disappeared, leaving a scarcely visible slight atrophy, no actual scarring. It is more than two years since the treatment. I have seen the patient again recently, and he has had no recurrence, and the site of the growth is unrecognizable except with a lens.

2. Charles E., aged 63, was sent to me by Dr. Lovell for treatment of a small rodent ulcer near the inner canthus of the left eye, about ½ in. in diameter, ulcerated and excavated. He had had this condition for several months; the earliest date of advent was not definitely known. He received two treatments of ionization in June, 1909, the first for eighteen minutes with 4 milliampères, the second of twenty minutes with the same current. This resulted in apparently complete healing, and I did not see the patient again until a month ago, when he was again sent to me by Dr. Lovell; he appeared to have a slightly hypertrophic scar in the middle of the old ulceration (which was quite healed) and a doubtful recurrence of hard rodent tissue at the edges of the patch treated. My experience with carbon dioxide in hypertrophic scarring has been so good that I decided to treat the whole area, including the new dubious growth, with this agent. The result of this single application has been very satisfactory. The patient writes (November 29th): "The place is quite healed, and there is much less ridge (that is, hypertrophic scarring) than before the last treatment."

3. Thomas M., aged 40, came to me with a small rodent ulcer on the vertical line between the inner canthus of the eye and the ala nasi on the left side. The ulcer, when first seen on February 3rd, 1910, had lasted for twelve months, and was the size of a threepenny piece. It was definitely ulcerated. He received two treatments with zinc ions, lasting for twenty minutes each, with about 5 milliampères. On March 21st there was no more rodent tissue perceptible, and there was complete healing with the formation of a perfect scar by April 18th. He was seen again, and was shown to the Harveian Society on October 13th. There had been no recurrence, and the scar was excellent.

4. John F., aged 43, was sent to my department at St. Mary's Hospital for the first time in March, 1904, with a rodent ulcer ¼ in. by ¼ in. at the lower end of the naso-labial sulcus on the left side. This had persisted for some two years before his coming to the hospital. He was treated with *x* rays by the radiographer to the hospital, and after about sixteen exposures the growth had almost disappeared. There were recurrences, however, from time to time, and the *x* rays, although given in full doses and very frequently (he had about seventy-five exposures), failed to effect a permanent cure. I then decided to try him with zinc ionization, and commenced this treatment in October, 1908. He had about eight treatments in all, averaging twenty five to thirty minutes in duration, and these have resulted in an apparently complete cure. He was seen on December 5th, 1910 and the scar was perfectly continuous, with no ulceration and no rodent tissue perceptible to touch or sight. The extraordinary vitality of the malignant tissue in this case, and the comparative failure of *x* rays after a prolonged treatment are worthy of note.

5. James M., aged 48, sent to me by Dr. Liston of Tewkesbury on November 2nd, 1908. He had had a typical rodent ulcer on the side of the nose for the previous five years, which had resisted all local treatment. He was obliged to return to Tewkesbury immediately, and I gave him accordingly a single treatment, with zinc ions, of twenty-five minutes, and sent him back the same day. I heard from the patient a month later that the ulcer had completely healed, a report confirmed by Dr. Liston. I have heard again from this patient, in response to an inquiry; he says (December 1st, 1910): "My face is quite well;

* Messrs. Maw and Thompson supply these in several convenient sizes.

in fact, you could see no sign of the ulcer three months after you treated it."

6. Mrs. H., aged 60, was sent to me by Dr. d'Esterre on March 7th, 1910, with a large rodent ulcer, and possibly an aggregation of several smaller rodent ulcers, on the left cheek, near the ear. She was given four treatments by zinc ionization (20 to 30 minutes), but at too remote intervals to obtain any cumulative effect. She was seen again, after a long absence, on December 5th, when some rodent tissue was still perceptible in the site treated, and this whole area was frozen anew with CO_2 snow for twenty-five seconds. The ionization had effected an improvement considerable enough to induce the patient to cease her visits, but had not completed the removal of malignant tissue as perceptible by clinical observation.

7. Margaret L., aged now 71, was first seen by me in 1903. She had at that time a rodent ulcer, about ¾ in. × 1½ in. long, over the left eyebrow, which had been present for five years previously, and had developed on the site of a pigmented naevus. She was ordered *x*-ray treatment, which was given by the radiographer to St. Mary's Hospital. The ulcer proved singularly resistant to this treatment, and she attended off and on for five years, never getting really well, and having frequent severe conjunctivitis from the exposures to *x* rays. She had had, probably, at least 100 treatments, and had ceased pursuing these, when, in May, 1909, I decided to try zinc ionization. She had four treatments of this, but suffered so much pain (she is a highly nervous woman) that she could not be prevailed upon to continue. Excision was accordingly recommended, and was performed in August, 1909, by Mr. Clayton Greene, an excision wide of the lesion being practised. She has returned to-day (December 1st) with a recurrence of rodent tissue in the terminal line of the scar of this excision. Mr. Clayton Greene, who has seen the patient, corroborates the fact of recurrence. This case is instructive, as showing the obstinacy of some rodent ulcers to every form of treatment, and also incidentally as showing that operation is not always preventive of recurrence any more than other measures. I have begun to treat the recurrent ulcer with carbon dioxide freezing (December 5th).

Cases Treated by Freezing with Carbon Dioxide Snow.

1. Mrs. T., aged 50, sent to me by Dr. Stanley Blaker of Ealing; she had had a small ulcer for two years on the right side of the nose, just above the ala nasi. This bled frequently and had a permanent and rather deep excavated centre with a typical hard edge; the whole about $\frac{3}{16}$ in. in diameter. It apparently began with a small scratch. She had two treatments of freezing for twenty seconds at intervals of one week, with a preliminary three days' wear of salicylic acid plaster, 25 per cent. The last treatment was in June; she was seen on November 20th, when the ulcer was perfectly healed and showed no sign of recurrence.

2. Miss M., aged 64, sent to me by my colleague, Dr. W. H. Willcox, with a small circinate rodent ¼ in. in diameter on the centre of the nose at the junction of bone and cartilage; the ulcer was hard and much excavated and had persisted for five years. She had another more recent and less indurated rodent nodule on the temple. Three applications of carbon dioxide snow of twenty seconds were made to each of the lesions, and the case when seen last (October 7th) showed a nearly healed surface over both ulcers, with no rodent tissue perceptible in either. She writes (November 29th): "Both places have quite healed and are completely cured."

3. Eliza B., aged 44, was sent to me on July 14th with a rodent ulcer the size of a threepenny piece at the outer canthus of the right eye. She had had the ulcer for five to six years; it was excavated by ulceration in the usual way. She had three treatments of 20 to 25 seconds each time with carbon dioxide snow. The result was apparently perfect cure, the scar being somewhat pigmented at first, but quite devoid of any thickening or infiltration; and it has remained so up to date. She was shown at the Harveian Society on October 13th.

4. Annie H., aged 40, came to St. Mary's Hospital on July 21st, 1910, having been sent on to me by Mr. Maynard Smith. She had a rodent ulcer on the left cheek, just under the eye. The ulcer was rather elongated than round, and the margin was unusually elevated and hard. It had persisted for twelve years, and had been thought to be tuberculous, and, accordingly, the opsonic index to tubercle had been investigated, and found to be 1.17. A somewhat uncertain history of a congenital pigmented patch having preceded the development of the ulcer was given by the patient. She was subjected to three applications of carbon dioxide snow on July 28th, August 11th, and September 15th (the later interval representing the long vacation), and on October 3rd the lesion was reported to be quite well; she was seen again on December 5th, and still showed no signs of disease or recurrence in the scar, which was so perfect as to be barely recognizable as scar tissue.

5. Helen V., aged 30, was sent to me at St. Mary's Hospital on September 29th with a small, very vascular nodule on the upper lip just below the septum nasi. This had been present for some months, but had begun to bleed on friction; it was thought to be probably an early rodent nodule, and as the patient was inconvenienced by it she desired its extirpation. The nodule was raised about $\frac{1}{16}$ in. from the surface, and was of about the same diameter. Application of carbon dioxide snow was made for 30 seconds (as the growth was so firm and solid) on the following dates—September 29th, October 6th, 13th, 20th, 27th; it was then left for four weeks, and a final application made on November 24th, by which time the growth had entirely disappeared, and the surface of the site it had occupied was quite flush with the rest of the skin.

6. Francis A., aged 68, was sent to me at St. Mary's Hospital on July 14th with a rodent ulcer of about a quarter of an inch in diameter, situated quite near the right ala nasi in the naso-labial sulcus. He had had this ulceration for two years. He received four treatments of carbon dioxide freezing for periods of twenty-five seconds, the last application having been about September 12th. He was seen again two months later, when the scar was quite invisible except upon stretching the skin very forcibly over the site treated, when a faint whiteness as compared with the rest of the skin could be detected in the position of the previous lesion.

7. Annie F., aged 60, was sent to me from the eye department of St. Mary's Hospital on October 24th, when she showed a rodent ulcer about a quarter by half an inch in size, elongated in the transverse diameter, and with a curiously hard ridge, situated on the outer side of the lower left eyelid. This had been noted for three years. She had three applications of carbon dioxide snow for twenty to twenty-five seconds at a time—on October 24th, November 3rd, November 17th. At the later date the rodent tissue seemed no longer present, and the ulcer at the present time (December 1st) has completely healed.

8. Richard S., aged 54, has a small rodent ulcer, about ¼ in. by ¼ in. just above the free edge of the right ala nasi. He had noticed this for about two years. This man had a single treatment of freezing by carbon dioxide at the end of September, 1910, which in his opinion had cured him; he took French leave and remained away until summoned by me to the hospital on December 5th, when I detected the presence of rodent tissue in the site of the lesion treated, though this had greatly diminished in size.

9. Henry P., aged 60, came to St. Mary's Hospital with a small early rodent ulcer on the bridge of the nose. The ulcer had developed on the site of a small lesion of the type of "sebaceous epithelioma" of Besnier. He had two treatments of carbon dioxide snow, applied for twenty seconds at a time. The last treatment was on October 20th, 1910; he was seen on December 5th, when he had a perfectly healthy and scarcely visible scar on the site treated.

10. Richard H., aged 60, had noted a "chronic ulcer," ¼ in. long, on the right side of the nose, stretching from the inner canthus of the orbit to the bridge of the nose, for three years before his admission to the skin department at St. Mary's Hospital. He was given two treatments of twenty seconds each, the last one being in September, 1910. The ulcer "completely healed," as he thought, so that he did not return for treatment. He came to see me in response to a request to do so to-day (December 5th), and although the site of the original ulcer is almost entirely healed over, there is in the centre of the treated patch a doubtful area where rodent tissue may be present, and the man is accordingly to be treated further. It is to be noted that he desisted from coming without my sanction, and that I was not satisfied of his cure when I had performed the second application.

11. William P., aged 72, was sent to me by Dr. John Harris on September 5th with a large epitheliomatous ulcer on the mucous membrane of the lower lip, with a foul surface and fungating growth. No enlarged glands could be felt in the neck. The ulcer had commenced to give trouble three or four months previously, and had begun in the site of a fissure. The patient was an old and feeble man, and those facts, together with the absence of enlarged glands, seemed to me to justify trying the effect of carbon dioxide snow in place of operation. My colleague, Mr. Clayton Greene, whom I asked to see the case, was strongly in favour of operating upon the lip, but eventually it was agreed that the effect of freezing should be tried. He was admitted to St. Mary's Hospital, and various parts of the ulcer, which covered an area of about ¾×1 in., were exposed to freezing at intervals of about five days, each area having about three treatments. Mr. Clayton Greene saw the case again on November 3rd, when he wrote: "I must confess to a feeling of great surprise at seeing P. You are quite right. The epithelioma is much better. I can't feel any glands, and against my former opinion I am inclined to temporize." The lesion was by this time reduced to half its size; it was no longer ulcerating, but had receded to a nodular swelling quite inoffensive and dry. The man was now quite set against having it removed surgically. He had not remained in the hospital, and had attended irregularly, so that the freezing treatment had not had as good a trial as it should have done, but it nevertheless promised astonishingly well.

I commenced this paper with the remark that one did not now see such extensive ravages in this disease as one did ten or fifteen years ago. I was under the impression that the disease was becoming also more rare, but on comparing Dr. Radcliffe Crocker's statistics with my own, I cannot confirm this impression. In 10,000 cases of skin disease in hospital patients, Crocker recorded 14 rodent ulcers (1.4 per 1,000). In examining my records at St. Mary's Hospital (April, 1903, to August, 1910), I find that out of 12,500 cases of general diseases of the skin I had 27 cases of rodent ulcer (2.3 per 1,000); Crocker's statistics must have been compiled before 1893, as they appear in this form in the second edition of his textbook published in that year. So that they represent a period earlier by at least ten years than my own (1903–1910).

It may be objected that my repetition of applications of freezing are unnecessary, and that a longer and single exposure would be preferable. With this view I do not agree; it must never be forgotten that different persons have different degrees of cutaneous vulnerability, and that longer exposures, as advised by Morton, may in exceptional cases cause a really severe ulceration, producing scarring more disfiguring than the lesion treated. Since the disease is almost restricted to the face, the effects of disfigurement are most important to avoid, and it is better in my opinion to do shorter treatments repeated as often as may be required. It will be seen that in the greater number of my cases three was the maximum number needed. In no case have I had a reaction that was resented by the patient, and I have not met with the very unsightly and alarming oedema of the soft tissue of the face which I have sometimes produced with longer exposures practised for other diseases—for example, lupus vulgaris and lupus erythematosus. With so chronic a disease as rodent ulcer, whether the duration of the treatment extends over one week or one month, is of little import.

The propriety of treating any malignant tumours without radical operations of removal may very reasonably be questioned, especially by surgeons, some of whom are not inclined to view the radium propaganda with approbation. In the case of rodent ulcers the malignancy is so slight, and the absence of glandular involvement so constant, the disfigurement produced by radical removal so great, and in the special circumstances of its usual sites so resented by patients, that the decision in practical experience goes against the operating surgeon in the majority of instances, and it becomes a choice as to what other means can be adopted. The choice at present lies between (1) x rays; (2) radium; (3) actual cautery; (4) ionization; (5) freezing.

My experience with the x ray method has been that it is more uncertain in its effects than the two methods I have advocated above, much more tedious, more exposed to risk of untoward happenings, such as severe conjunctivitis, for the ulcer commonly is in such positions that the conjunctiva cannot help being included in the exposure, and such as disfiguring telangiectases on the parts treated.

I am aware that other observers, with far wider experience of x-ray treatment than I possess, still prefer this treatment to all others. Sequeira,[3] who has had an exceptional opportunity of testing this therapeutic agency, reported 181 cases of rodent ulcer so treated; of these, 75 had remained cured for at least three years; 26 for at least two years; 38 had relapses, of which 31 were ultimately healed; and in 42 healing was not obtained by this means. Sequeira remarks that there is "a class of apparently slight cases which prove very resistant to x rays," and it is just in these cases that I should advise the substitution of the methods of ionization and freezing.

With radium the same uncertainty exists as to what the extent of the effect may be, and treatment is tedious and expensive, and often not within the reach of practitioners out of the large towns.

I have had small personal experience of the actual cautery, a treatment much practised in Paris at present, but I have seen two excellent results. It is rapid and convenient, but produces much more scarring than either of the two processes I have described in detail.

Between ionization and freezing, which are equally convenient and widely practicable, my own preference has turned to the latter, but I am not convinced that ionization is not equally efficient in producing a permanent cure.

REFERENCES.

[1] *Lancet*, July 9th, 1910. [2] *Journ. Amer. Med. Assoc.*, May 7th, 1910. [3] *Transactions, Second Congress of International Surgical Society*, Brussels, 1908.

WE are informed that some of the films of micro-organisms referred to in the paragraph headed "Cinematographic Microscopy," published in the JOURNAL of December 31st, 1910, p. 2037, will be shown at a meeting of the Camera Club on January 19th at 8.30 p.m. The accommodation is limited, but any members of the Association who desire to be present will receive invitations if they will promptly send their names to Mr. Henry W. Fairholme, honorary secretary of the Camera Club, 17, John Street, Adelphi, W.C.

EXCISION OF A CANCEROUS SEGMENT OF THE OESOPHAGUS: RESTORATION OF THE OESOPHAGUS BY MEANS OF SKIN FLAP.

BY W. ARBUTHNOT LANE, M.S.,

SURGEON TO GUY'S HOSPITAL AND TO THE HOSPITAL FOR SICK CHILDREN, GREAT ORMOND STREET.

To the general surgeon no class of case appears to be as utterly hopeless as cancer of the oesophagus. When the portion of the oesophagus within the thorax is involved the possibility of resecting a section of it by any operation however severe, and of eliminating the disease, appears to be very remote. In such cases I think that the wisest course to pursue is to make a fistulous opening into the stomach, through which the patient can be fed easily and without discomfort. The operation is a very simple one, and it is accompanied with only a slight amount of pain—an important feature to a patient who is often more than half starved and whose pluck is consequently destroyed. After this operative procedure has been effected satisfactorily the growth can be treated by means of radium or its emanations. A tube containing this substance can be readily introduced into and retained in the cancerous stricture for as long a period as may seem advisable. Cancer of the oesophagus offers an ideal situation for the treatment by radium, particularly as it extends so slowly by means of glandular infection.

The cases of cancer of the oesophagus which are, perhaps, of most practical interest to the surgeon are those in which the disease affects a portion of the oesophagus in the neck. In such the surgeon occasionally performs operations of considerable magnitude, in which he generally leaves the patient in greater pain and much more uncomfortable than he was before the operation, or he opens the oesophagus below the growth, not affecting appreciably the rate of growth of the disease.

It seems to me that in most cases of cancer of the oesophagus in the neck one can follow the general principle of removing the growth in its entirety and yet leave the patient in a condition of comparative comfort after the operation.

I will now describe a case illustrating a method of treatment which is comparatively simple and not infrequently applicable in cancer affecting the oesophagus in the neck. Unfortunately, as the extreme upper limit of the oesophagus was involved in this particular case, the result was not as functionally perfect as it would have been if a segment of the upper portion of the normal oesophagus could have been left in which food and secretions could have collected free of the laryngeal aperture.

The principle of the operation is to excise the portion of the oesophagus affected by cancer together with any glands, keeping well away from the diseased area, and to replace the segment of oesophagus removed by means of a strip of skin cut transversely from the neck, and retaining an attachment and blood supply, the continuity of the oesophagus being completely restored. After an interval of sufficient length for the firm union of the skin oesophagus to the portion of the normal oesophagus at the lines of section, the attachment of the flap of skin by its base to the skin of the neck is divided, and any lateral aperture in the skin oesophagus which may remain is closed. Except when the growth involves the extreme upper limit of the oesophagus or invades the upper aperture of the larynx it would probably be possible to avoid performing tracheotomy. Till the edges of the skin oesophagus have united to those of the oesophagus, a tube for feeding purposes should be retained in position.

A. W., 30, married, came under my care on May 10th, 1909. She had for four months experienced increasing difficulty in swallowing, and this had progressed until she was only able to swallow a few drops of water. In consequence of this prolonged starvation she was very emaciated and feeble. She had a carcinoma of the upper limit of the oesophagus, which appeared to invade the back of the arytenoid muscle. Mr. Charters Symonds, whose experience of cancer of the oesophagus is probably unrivalled in England, confirmed my diagnosis. A fine

tube was passed through the stricture, and the patient was fed in this manner. As she increased rapidly in weight, while her general state of nutrition was very good, I operated on her on June 25th, 1909.

A skin flap, 2 in. deep and about 5 in. in length, was cut from the front of the neck, extending horizontally from a vertical line to the left of the larynx over the anterior and right lateral aspect of the neck. The flap was reflected up to its base. The larynx was displaced forwards and to the right, and the upper portion of the oesophagus for 3 in. of its length was freely exposed.

The growth, which was very dense, was found to involve the upper 2 in. of the oesophagus. There were two small shot-like infected glands; these were removed. The oesophagus was divided transversely above and below the growth, which was carefully dissected from the posterior surface of the larynx and from the arytenoid muscle, as the mucous membrane covering this structure was swollen and oedematous.

The flap of skin was then folded in the form of a tube of about the diameter of the oesophagus. Its upper margin was connected by multiple sutures to the lower limit of the pharynx, while its lower margin was sewn to the divided edge of the oesophagus. It was also attached to the larynx at the upper aperture. Owing to the fact that the patient was unable to swallow her saliva, it became necessary to perform tracheotomy a few hours after the operation. A tube was passed through the pharynx and the oesophagus, and through this she was fed.

After some weeks the tube was removed. It was then found that she was unable to swallow fluids, and that even her saliva dribbled from her mouth. The propinquity of the aperture of the larynx to that of the skin of the oesophagus and the fact of the skin of the oesophagus being attached to the upper aperture were apparently responsible for this. These circumstances also rendered it impossible for the patient to wear one of Symonds's funnel-shaped tubes.

As time went on she acquired the habit of swallowing her saliva, but remained permanently unable to obtain sufficient food by the natural passage. For this purpose she employed a tube, which was passed into the oesophagus over the small remaining area of attachment of the skin flap. Her general condition was good, and she was well nourished. For a considerable time there was no indication of any recurrence. Radium and *x* rays were employed at intervals with the object of obviating any return of the growth.

In spite of the precautions of an extensive operation and subsequent treatment by radium, an indurated mass appeared in the neck in the vicinity of the operation and discharged itself externally, leaving a sinus. Through this aperture, about the end of December, a sudden profuse haemorrhage took place, resulting in the death of the patient.

The *post-mortem* examination showed that this growth had recurred in a small area in the left side of the neck, and that it had invaded the carotid artery, whose wall gave way in consequence. The area of oesophagus made by skin did not differ in appearance from the adjacent portion of normal oesophagus, with which it had become continuous. It is reasonable to suppose that if the primary growth had been removed at an earlier period the patient would probably not have had any recurrence; also that an oesophagus made of skin can perform the function of a normal oesophagus, providing it is not in too close proximity to the upper aperture of the larynx.

AT a meeting of the Illuminating Engineering Society, to be held at the house of the Royal Society of Arts, John Street, Adelphi, on January 16th, a discussion on library lighting will be opened by Mr. J. Duff Brown (Islington Public Libraries) and Mr. S. L. Jast (Croydon Public Libraries). Professor S. P. Thompson, F.R.S., will take the chair at 8 p.m.

AT a sessional meeting of the Royal Sanitary Institute to be held at the Town Hall, Bradford, on Friday, February 3rd, a discussion on school clinics will be opened by Dr. L. A. Williams, Medical Superintendent, Bradford Education Authority. Earlier in the day a visit will be paid to the open-air school, Thackley, and on Saturday morning visits will be paid to the school clinic and the municipal dairy at Heaton.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

CALCIFICATION OF PLEURA AND EMPYEMA.

THE following case is a somewhat remarkable one and worth recording. Its etiology is very obscure.

John W., aged 59 years, was admitted to the hospital complaining of a "heat in the stomach" and headache. He looked ill and had a temperature of 102.6° and a pulse of 126. He had been in the hospital two weeks before with symptoms which were diagnosed as gastritis—namely, epigastric pain and vomiting, with furred tongue. It was then noted that there was wooden dullness in the left axilla, and this was ascribed to old thickened pleura, but there was no cough, nor history of chest trouble, nor any pain over the dull area. On admission, there was an elastic fluctuating swelling in the left axilla, and the glands and lymphatics above were enlarged. The patient first noticed the swelling the day before. The skin was not discoloured. The vocal resonance was almost absent and the breath sounds feeble all over the left axilla, but there were no adventitious sounds. The abscess was opened under local anaesthesia and 4 oz. of greenish pus evacuated. No micro-organisms were found on bacteriological examination. Two days after it was noticed that the left side was hardly moving; there was absolute dullness in the left axilla and no breath sounds. There was still no pain complained of and the discharge was moderate only. This state of affairs lasted for some considerable time, the temperature remaining normal for three weeks. Then there was swelling of the feet and frequency of micturition, but the urine contained no albumen. Then the temperature began to rise again at night (100° to 101° occasionally). The patient was averse to a general anaesthetic, but was at last persuaded. An incision was made, and the third and fourth ribs found to be necrosed. On cutting away the necrosed portions a discharging sinus was discovered, and on opening this hard, firm, calcified pleura was come upon. Three interspaces were examined, and the calcified pleura found to extend into each. The patient took the anaesthetic very badly; the breathing became bad and further operative procedure had to be abandoned. Six weeks afterwards a portion of the calcified pleura in the fourth space showed signs of yielding, and was removed without an anaesthetic. The visceral pleura could then be easily seen moving with the respiration and communicating the heart's impulse. It was covered with thick granulations. There was a constant discharge from this opening for a month. It came from above, between the lung and the bony casing of the pleura. This casing was about ¼ in. thick, and as difficult to drill as bone, but not quite so brittle. At the end of this time the patient was found to be going downhill, and although his condition did not warrant an attempt to remove the whole pleura, it was thought that if a wedge-shaped piece were cut out and two or more ribs resected, the hollow which existed between visceral and parietal pleura would fill up. An incision was accordingly made in the line of the old wound and extending upwards to the second space and downwards to the fifth space. Cross incisions were made above and below, and the flaps retracted. The flaps took everything down to the ribs. There was a good deal of fibrous tissue above and around the granulations, and it was difficult to remove this from the ribs. Considerable portions of the third, fourth, and fifth ribs were resected. The fourth and fifth were soft, and exuded pus when cut through with bone forceps. The enormously thickened and calcified pleura was cut into, and a portion the full length of the incision excised. It was ¼ in. thick by measurement. The flaps were sutured back in position with silkworm gut sutures. The wound healed well considering there were portions of it over which a purulent discharge was constantly passing, and he was out of bed in a week. Before the operation there had been swelling of wrists and ankles which, with the clubbed fingers, suggested the onset of pulmonary osteo-arthropathy. This diminished considerably after the operation.

Three weeks after a piece of calcified pleura which was getting loose was cut through and removed. It measured 1½ in. by 1 in. Four days later, at his own request, he was allowed to go home. At that time the thickening of wrists, ankles, etc., had returned, and was increasing.

Three and a half weeks later he was again admitted. The thickening of the wrists had extended to the forearms, which were now much larger than the upper arm. Next day a piece of the pleura, 2½ in. by 1⅓ in. by ¼ in. was removed. It had been working loose. The following day another piece was removed, and three days later two pieces, one 2 in. by 2 in. and the other 2½ in. by 2⅜ in. The patient became flushed, and his face began to swell, his nose being noticeably thickened. The swelling of ankles and wrists was now most marked. His evening temperature averaged 100.2°, and the morning normal or subnormal. He began to talk strangely at night, and then became delirious, at first at night and then in the day, for two days, during which time he was almost unmanageable. His mental condition then returned to normal all in one day. He was very thin and ill-looking about this time. He then began to mend slowly and put on flesh. In the next six months he gained a stone in weight. There was still an open wound, with the visceral pleura and its cover of granulation exposed, but the discharge was lessening. The edges of large fixed fragments of the pleura could be felt with the finger, and one piece, about 3 in. square, was wedged in close to the costal margin, and beneath the cartilages of the sixth, seventh, eighth, and ninth ribs, running into the lower part of the axilla from before backwards. It was now thirteen and a half months since his first admission. The following is a quotation taken from a note made about this time:

"The most remarkable feature of this case is the great change which has taken place in the wrists, ankles, and face. The features of the face have broadened considerably, and there is a malar flush and some oedema. There is also oedema of hands, wrists, and forearms (lower part), and considerable thickening of the joints and fingers. The fingers are large and the ends of the fingers thick and somewhat spatulate, with very convex nails. The feet, ankles, and legs show similar changes—oedema, enlargement of joints (including knees), and thickening of toes, with convexity of toe-nails."

Owing to these changes and the long-continued suppuration, amyloid disease was anticipated, and it was resolved to operate and remove the remaining portions of the pleura.

In this operation the line of incision commenced near the vertebral border of the scapula over the sixth rib, was brought down to the upper border of the tenth rib, and thence curved upwards to the discharging wound in the mid-axilla. The incision went through everything down to the ribs. This large flap was then raised. The muscles were pale, and scarcely a drop of blood exuded when they were cut through. The periosteum was removed from the ribs, and ribs 9, 8, 7, and 6 excised. Nos. 3, 4, and 5 had previously been removed. The calcified pleura thus uncovered was removed. It was about 3 in. by 3 in. by ¼ in. On passing the finger high up towards the apex of the lung the lower end of another piece could be felt. This was grasped with lion forceps and detached with some difficulty, and then another long piece about 2½ in. by ½ in. By this time the whole of the bony case covering the anterior portion of the lung had been stripped off to the very apex. Posteriorly on exploring with the finger the pleura was found to be thickened and fibrous, but not calcified, and adherent to the lung. The edge of this was pared and the granulations curetted away from the visceral pleura. When the whole was thoroughly clean the large fleshy flap was allowed to come in contact with it and sutured in position. A drainage tube was stitched in below. The flap was sutured in layers with catgut sutures. He complained of very little pain and slept four hours that night. The subsequent events may be stated briefly. The flap did not unite well in front. As before mentioned, it was pale and bloodless at the operation. In spite of this he made a good recovery, and one noticeable feature following the removal of all the diseased material was the rapid disappearance of the swelling of the joints (ankles and wrists especially), never to return. He had two attacks of diarrhoea, one while in the hospital and one after he went home. They lasted about a week each. Now, one year and ten months after his first admission, he looks well and is fairly active, but still has a discharge from the left side, and there is still visceral pleura to be seen; but the side has fallen in, and it seems not improbable that it will slowly granulate up and the skin grow over it. Considering the age of this patient, 59, and the chapter of events, his recovery and present condition is almost as remarkable as the nature of the case.

W. Sidney Sweet, B.Sc., M.D., B.S.Lond.,
Late Medical Superintendent and Resident Surgeon, Gympie Hospital, Queensland.
London.

HEREDITARY TENDENCY TO DEFECTIVE SIGHT IN MALES ONLY OF A FAMILY.

The following is an account of a family suffering from defective sight, this condition affecting the men only of the family, and apparently being transmitted by the women of the family to their sons.

I know this family in a social and not in a medical way, and therefore cannot, unfortunately, give the actual conditions of the eyes, but can describe the conditions from ordinary observation only. I have described those who were considered to have nothing wrong with their sight as "of apparently normal sight," but not having examined them I cannot actually state that their sight was normal, but it seemed quite good enough for ordinary purposes.

First Generation.—Captain A. B. (myopia and strabismus), married a lady of apparently normal sight. They had a son and a daughter.

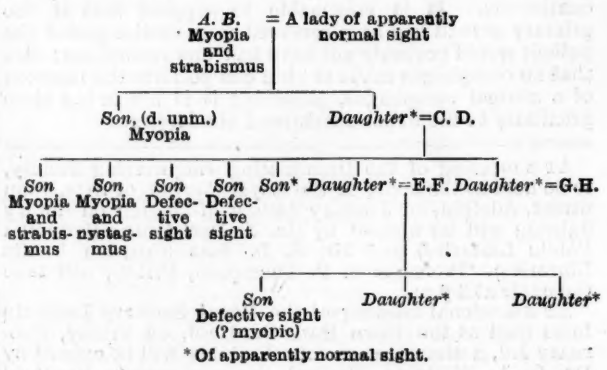
Second Generation.—The son was myopic; he died unmarried. The daughter, of apparently normal sight, married Captain C. D., of apparently normal sight. They had five sons and two daughters.

Third Generation.—All these five sons, except one, were debarred from entering the army owing to defective sight. The eldest son has myopia and strabismus; the second son has myopia and nystagmus. The third and fourth have defective sight. The youngest son alone had sufficiently good sight to pass the "medical" for the army. The two daughters have both apparently normal sight. They are both married; the younger has no children. The elder daughter married E. F., of apparently normal sight, and has one son and two daughters.

Fourth Generation.—The son has defective sight—myopia, I believe. The two daughters have apparently normal sight.

This history seems to tell of a condition which is transmitted by both males and females of a family to the males only; and, leaving the mother and maternal grandmother unaffected, has appeared again in the fourth generation.

The following table will show clearly the transmission of defective sight through four generations.



Agnes Oswald, M.B.
Dover.

The late Dr. George Ackroyd, of London, left estate valued at £33,556.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMFIRE.

CITY HOSPITAL, SASKATOON, CANADA.

A CASE OF ACUTE INTUSSUSCEPTION WITH STRANGULATION OF THE APPENDIX IN A CHILD OF FOUR MONTHS: OPERATION: RECOVERY.

(By ANDREW CROLL, M.Ch., M.D.Edin.)

ACUTE intussusception of the ileo-colic variety, with strangulation of the appendix, is of sufficient rarity to merit its publication.

The patient, a baby 4 months old, was seen by me on August 31st, 1910, at 6 p.m. The mother gave the following history: The baby was a robust child, was fed on the breast, and had not been ill since birth. The bowels were always regular. Early that forenoon she noticed that the child began to cry, and pulled its legs up as if in pain. The pains were intermittent; during the interval the child appeared quite well. Thinking the other children had given the baby "something" which did not agree with it, she administered a dose of castor oil, and observed that this seemed to make the pains worse. A simple enema was then given, which was returned tinged with blood.

On arriving at the house about 6 p.m., I found the child bathed in perspiration and apparently in great pain. The pains, which resembled "labour pains" in their severity, were accompanied by great straining, and the passage of mucus and blood. The abdomen was not distended, and no tumour could be made out on abdominal palpation. The child vomited during the examination. Per rectum nothing could be felt, the finger returning tinged with blood. The temperature was 98.8° and the pulse 130.

Immediate operation was advised, but the mother would not give her consent until the return of the father, who unfortunately was not at home. During the night the pains continued, lessening in severity towards morning. When seen early next morning, the child looked very ill—eyes sunken, abdomen distended and tympanitic, pulse rapid and feeble.

Consent was given for the operation, and the child was admitted to the hospital at 10 a.m., about twenty-four hours after the onset of the illness.

The abdomen was opened in the middle line in the umbilical region. Owing to the great distension, the bowels immediately protruded and a considerable quantity of clear serous fluid drained away. The lower part of the ileum was completely collapsed, and on following this collapsed bowel downwards a mass was felt in the region of the caecum. The mass extended for about 6 in. along the ascending colon. It consisted of a protrusion of ileum through the ileo-caecal valve, and also an invagination of the valve and caecum into the ascending colon. The invagination of the caecum took with it about two-thirds of the appendix, leaving the distal third strangulated. The distal third of the appendix appeared quite black, and was attached by slight adhesions to the adjacent small gut.

The intussusception was not difficult to reduce. The distal end of the appendix being dead, appendectomy was performed. The distension of the bowels being so great, it was found impossible to replace them in the abdomen. An opening was made in the small gut and the gas and liquid faeces allowed to escape. This opening in the gut was closed with Lembert sutures, the gut replaced, and the abdomen closed.

The child rallied well and passed a dark-brown stool seven hours after the operation. For the week following the temperature varied from 100° F. to 102° F., and the pulse-rate from 124 to 140.

The stitches were removed on the eleventh day, when the abdominal wound was completely healed. The child left the hospital on the thirteenth day with a normal temperature and a pulse-rate of 110.

REMARKS.—The points of interest in this case are: (1) The apparent absence on palpation of an "abdominal tumour." (2) The ileo-colic variety of intussusception, which occurs in about 8 per cent. of the cases of acute intussusception. (3) The invagination of the caecum and the consequent cutting off of the blood supply of the appendix. (4) The unavoidable delay in operating, with subsequent tympanitis, which demanded the opening of the gut for its relief.

My thanks are due to Drs. Young and Weaver for their able assistance at the operation.

Reports of Societies.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF MEDICINE.

Friday, December 16th, 1910.

Sir JOHN MOORE, President, in the Chair.

Coeliac Axis Aneurysm.

DR. LUMSDEN and Mr. W. I. DE C. WHEELER showed, seven weeks after operation, a brewery labourer, aged 38, on whom operations for coeliac axis aneurysm had been performed. He had previously been treated without benefit by potassium iodide and complete rest in a recumbent position, with a modified Tufnell diet. Mr. Wheeler introduced into the sac 150 in. of gilded wire in the form of a cage by the method of Colt and D'Arcy Power. For the first few days the aneurysmal pulsation was more tumultuous than before the operation, but since then there had been a distinct diminution of pulsation and hardening of the tumour. The operation was performed with the strictest aseptic precautions, and was facilitated by placing a sand-bag under the patient's back and tilting the table, so that the pelvis and feet were low, and the intestines fell away into the pelvis (Mayo Robson's gall bladder position). There was no haemorrhage. Statistics demonstrated a small percentage of cures in the cases operated upon, but that the prognosis was hopeless when operation was not possible, Osler and other authorities never having seen a cure under medical treatment. *Post-mortem* examinations of cases which died even a short time after operation revealed a firm, laminated clot in which the wire was embedded. Electrolysis was not employed, as there was not sufficient experimental evidence of its value in inducing coagulation. The risk of sepsis was increased owing to the prolongation of the operation and the difficulty of sterilization of insulated instruments and electrical apparatus. Colt's instrument made the operation very easy and very safe. Dr. WALTER SMITH said the case was, as far as he knew, the first demonstrated in Dublin. The main subject for congratulation was that the patient had survived, though living after an operation was no proof that it prolonged life, and patients had lived with an untreated aneurysm. He hoped none of his friends would ever introduce wire into his aorta, as he considered the operation unscientific. The only chance of cure was by Nature laying down tough, laminated fibrin. A foreign body might induce embolism, and was very dangerous. Dr. PARSONS recalled a case in which the symptoms began in 1896, and the patient did laborious work until within two years of his death in 1906. He thought the chances of repeating such a successful result as Mr. Wheeler's were very small. Dr. KIRKPATRICK said he believed the patient to be in a much safer position than before the operation. He did not see why, because clotting was induced by a foreign body, it should be a soft clot and remain so. He thought the clot, if it completely filled the aneurysm, would become hard. Dr. LUMSDEN, in reply, said that medical treatment of aneurysm in the past had been distinctly unsatisfactory. He had himself had four cases under his care—three men and one woman. The woman died suddenly six months after diagnosis, and no cause of death was discovered. One of the men died suddenly three months after diagnosis. There was no *post-mortem* examination, but he believed the aneurysm had burst. The third case was operated on six years ago by Mr. Maunsell, who introduced 24 ft. of wire, and performed electrolysis, but

the aneurysm perforated through to the stomach, and the patient died about the fifth day. The *post-mortem* examination gave a beautiful picture of a laminated clot, showing the process of healing going on. The present patient had been getting worse before the surgeon took him over, and now he was much better, and he thought there was fair hope for the future. Mr. Wheeler, in reply, said that no cases published without operation showed any cures, while there had been cures in every series with operation, so that he thought the operation was undoubtedly justifiable.

Thrombosis of the Superior Mesenteric Vein.

Dr. J. J. Burgess described a case of thrombosis of the superior mesenteric vein. Its special interest lay in the comparative mildness of the abdominal symptoms and the prominence of those of a cerebral type. The case was acute, and terminated fatally in eight days with gangrene of a portion of the jejunum. Dr. Walter Smith said he had seen one or two cases of the condition, though not quite the same—the symptoms were more acute. In one case a correct diagnosis was made *ante mortem*, relying on sudden abdominal pain and bloody stools. In Dr. Burgess's case the difficulties of correct diagnosis were almost insuperable.

LIVERPOOL MEDICAL INSTITUTION.

Thursday, December 22nd, 1910.

Dr. T. R. Bradshaw, President, in the Chair.

Varicose Veins.

Mr. R. E. Kelly, in a note on operations for varicose veins, described Mayo's operation, which he had performed recently about twelve times with excellent results. Mr. K. W. Monsarrat, in a note on the same subject, expressed the opinion that no standard operation was suitable to all cases; reflux from deep to superficial veins being the main cause of varicosity, it was of the first importance to ascertain where this reflux was occurring. On this investigation depended the choice of operation. Mr. Thelwall Thomas, who, like Mr. Rushton Parker and Mr. Newbolt, considered that there were some cases which no operation would cure, said that usually some modification of Trendelenburg's operation was the best. In Trendelenburg's original description the saphena was ligatured at the junction of the middle and lower third of the thigh or a little lower, but the speaker found that this was not always satisfactory. Consequently, in 1896, he recommended in the *Liverpool Medico-Chirurgical Journal* that the vein should be tied near to the saphena opening. Mr. Newbolt mentioned a patient in whom the operation promised to be very successful, and was so for four years, but after that time the varicosities returned in greater degree than ever.

"606."

Dr. Stopford Taylor and Dr. R. W. McKenna, in a paper on the Ehrlich-Hata remedy for syphilis, said that three years ago Ehrlich pointed out that the arsenic in atoxyl was not fixed to the amidogen group, but to the benzine nucleus. This was the first step which led to the discovery of "606." In using this remedy, there was great danger of oxidation unless the preparation was mixed immediately before use. The method of Michaelis for preparing the powder was the best, but intravenous was incomparably superior to intramuscular injection. The effect of the remedy on some syphilitic lesions was extraordinary; the primary sore became smaller in forty-eight hours, and the secondary symptoms disappeared in about a week. Mucous patches in the throat disappeared in thirty-six to forty-eight hours. Tertiary ulcers of the pharynx and periosteal nodes lost their painfulness in twenty-four hours after one full dose. The remedy acted by having a powerful lethal effect upon the spirochaete, the protoplasm of which contained chemio-receptors with a special affinity for "606"; a further factor was liberation of endotoxins from the spirochaetes, the production of antibodies being thus brought about. That antibodies played a part was shown by the fact that syphilitic babies nursed by their mothers got well, though no arsenic was found in the milk. Administration entailed certain risks, but when Ehrlich's directions were followed the mortality had been only 1 in 1,000. Optic atrophy had occurred in only 1 out of between 20,000 and 30,000 cases. The remedy might be of use in pachymeningitis and gummatous infiltration. Some of the cases mentioned by the readers of the paper had been under the care of Mr. Arthur Evans, who gave details of 7 further cases in which he had used the remedy; the result in each case was the rapid disappearance of the signs of the disease. Constitutional symptoms were often marked, but transitory.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

Friday, December 16th, 1910.

Dr. J. Dobson in the Chair.

Clinical Meeting.

The following were among the exhibits: Mr. A. L. Whitehead: A case of *Wound of the eye, frontal sinus, and cerebrum* by a pellet from an air gun. The eyeball was ruptured, and therefore excised; the fragments of bone splinters were removed from the frontal sinus and the roof of the orbit. A skiagram showed that the pellet had broken into two pieces; one was removed, but the other could not be found. Subsequently an attempt was made to remove this portion, using the *x* ray screen, but without success, the bullet still remaining in the frontal portion of the cerebrum. Mr. H. Secker Walker: A case of *Electric cataract* caused by severe burning of the face by electricity (3,000 volts). Several plastic operations had been done for the relief of the deformity produced by cicatrization. Dr. A. G. Barrs showed a woman, aged 26, who had suffered from *Cerebral tumour*, with two years' history of symptoms—headache, vomiting, optic neuritis, and convulsive attacks. Three weeks prior to the operation sight had suddenly failed almost completely. On October 26th, 1910, a decompression operation was performed; a trephined hole 2 in. in diameter was made beneath the left temporal muscles; the dura mater was not opened. By November 21st headaches and vomiting and fits had entirely ceased. There was great improvement in vision and the optic neuritis was clearing up. The power of walking, which was lost, considerably returned. In December the improvement was still maintained. Mr. B. G. A. Moynihan: A case in which *Transgastric resection* had been performed on a woman, aged 51, who had suffered from "indigestion" since the age of 16. At operation was found a large ulcer on the anterior surface of the stomach adherent to the abdominal wall. On the posterior surface was another large ulcer adherent to the tail of the pancreas. The anterior ulcer was excised, and through the opening so made the posterior ulcer was excised, and the cavity in the pancreas closed by suture. Mr. Walter Thompson: A case of trigeminal neuralgia treated by *Injection of alcohol* in a patient, aged 62. The neuralgia was of four years' duration, following extraction of the left upper molar tooth. Pain was increasing, and was paroxysmal in character. The patient had been operated upon on September 19th, under cocaine; alcohol, 80 per cent., was injected into the nerve at the foramen ovale, and at the infraorbital foramen. Considerable improvement had resulted. Dr. A. Bronner: A case of *Glaucoma* treated by trephining the sclera at the corneal margin, and by cyclo-dialysis (Fergus's operation). In this case a previous iridectomy and posterior sclerotomy had failed to relieve the tension, which was now considerably improved. Dr. E. F. Trevelyan: A case of *Stationary muscular atrophy* limited to the hands in a woman aged 24. There was also numbness and diminished knee-jerk in the left leg. Her present state was the same as when she was shown to the society six years ago. Mr. J. F. Dobson: A boy, aged 19, who had sustained a fractured base with cerebral compression, and on whom an intermusculo-temporal *Decompression operation* had been performed. Cerebral irritation was present for some days after the operation. The patient still complained of some headache and dizziness. Dr. W. H. Maxwell Telling: A man who had had an acute arthritis of one joint from oral sepsis. He was first seen on August 31st, 1910, and then had marked swelling of the right wrist joint of five weeks' duration with much oedema, pain, and thickening affecting the right wrist and carpus. No gonorrhoea or previous joint affection. Mouth full of carious stumps and in a very septic condition. Mouth

treated antiseptically; guaiacol carbonate given internally and teeth extracted, with immediate and rapid improvement of the joint condition. By November 9th all acute inflammation disappeared, only a little stiffness of the joint left. Mr. REGINALD WILSON: A case of *Ruptured intestine* and abdominal wall. The patient, a youth, sustained an injury in which intestine was ruptured and extruded through a rent in the abdominal parietes. The skin over the rent alone held; the gut lay immediately under it in a pool of faeces. Enterectomy was performed.

UNITED SERVICES MEDICAL SOCIETY.

Wednesday, December 14th, 1910.

Surgeon-General W. BABTIE, V.C., in the Chair.

The Fighting Line.

LIEUTENANT-COLONEL M. W. RUSSELL, R.A.M.C., opening a discussion on recent tendencies in the development of Army Medical Services, pointed out that under present conditions it was usually impossible for wounded to be removed from the fighting line till dark, or at any rate till there was a lull in the fire; the wounded at the front could only be collected in "nests" and treated by the regimental personnel till this happened. Hence there was a tendency in most armies to increase the efficiency of the regimental aid by improving training and increasing the regimental supply of appliance. In the British army the water personnel should be made available for regimental aid during action, since their duties in connexion with water were in abeyance at that time. The example of Germany, France, and Austria might also be followed in making the regimental bearers devote their whole time to their bearer duties, and thus become not only more efficient, but entitled to the protection of the Geneva badge. Very considerable changes in arrangements were likely to follow the more extended use of mechanical transport in war. Lieutenant-Colonel BURTCHAELL, R.A.M.C., thought it would be impossible to combine the duties of water-men and first aid. He also thought it impracticable to send lightly wounded men direct from the regiments to the collecting station; in the Japanese army these men passed through the dressing station. Major WANHILL, R.A.M.C., protested against the diversion of water men from their legitimate duties. Colonel PETERKIN, A.M.S., doubted if one collecting station for a division would be sufficient, on account of the distance from the flanks. Surgeon-General BABTIE asked officers to pay special attention to the alterations necessitated by the employment of mechanical transport. Lieutenant-Colonel RUSSELL, in reply, pointed out that in action everything, even sanitation, must be subordinated to the defeat of the enemy; hence his recommendation to utilize the water-men for first aid at this time. As the collecting station was five or six miles in the rear, there was no need to duplicate these establishments.

Cases.

Major GIBBARD, R.A.M.C., showed a case of extensive *Syphilitic ulceration* of the head and face which had resisted the usual treatment, but which healed promptly after injection of "606." Major W. E. MILES, R.A.M.C. (T.), in a paper on pruritus ani, expressed the opinion that the condition would be more properly labelled *Dermatitis ani*. It could not be of nerve origin, since most cases yielded to local treatment; usually it arose in patients with a gouty or eczematous diathesis. Of the exciting causes, rectal constipation was the most prominent. Treatment consisted in local applications of hot water, sedative and astringent ointments and powders, and in the removal of the exciting cause.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.

Wednesday, December 21st, 1910.

Mr. W. MORLEY WILLIS, President, in the Chair.

Cerebro-spinal Fever.

DR. ERNEST MILLIGAN read a paper on cerebro-spinal fever, based on observation of over 300 cases seen by him at the City Fever Hospital during the epidemic in Belfast. In respect of diagnosis stress was laid on the value of lumbar puncture; the opsonic index was of great use after the sixth day of the disease. In treatment Flexner and Jobling's serum gave valuable results. A comparison recently made by Robb of cases treated outside hospital without serum and cases treated in hospital with serum showed a mortality for the former of 85·2 per cent., and for the latter of only 26.6 per cent. The following general conclusions were drawn: (1) Owing to the occurrence of mild cases and toxic cases without meningeal symptoms, the disease might be unrecognized unless lumbar puncture were performed. (2) The disease was spread largely by "carriers" and by mild cases as well as by acute cases. (3) Search for "carriers" and mild cases should be undertaken. (4) An intestinal mode of entry was probable. (5) Flexner and Jobling's serum should be given early. (6) The opsonic test was useful in diagnosis after the sixth day. (7) Sudden death after apparent recovery was always a possibility. In the discussion which followed, Dr. F. H. JACOB said that he considered that the lumbar puncture settled the diagnosis in most cases. Dr. ATKINSON described his experience in a recent local outbreak. He had had 33 cases with 4 deaths. Of the latter, 3 were not treated with the serum, and the fourth was one of the earlier cases which he injected. The 29 cases that recovered were all treated by serum.

NORTH OF ENGLAND OBSTETRICAL AND GYNAECOLOGICAL SOCIETY.

Dr. W. K. WALLS, President, in the Chair.

Friday, December 16th, 1910.

MEETING AT MANCHESTER.

THE following were among the cases reported or exhibited:—Miss IVENS (Liverpool): (1) *Localized adenomyoma* in a tuberculous Fallopian tube removed from a young married woman complaining of dysmenorrhoea and dyspareunia. The right tube was generally thickened with a nodule at the uterine end. Microscopically the tube showed typical tubercles. The nodule was composed of adenomyomatous tissue also showing giant cells and round-celled proliferation. Two similar cases had been described by von Franqué and Parsons and Glendinning. (2) *Keratinizing adeno-carcinoma of the uterus* removed from a spinster, aged 41. Dr. Pantland Hick investigated the tumour microscopically and found the growth to present in the older portions the appearance of a squamous carcinoma with cell-rests, but the glandular origin was evident in sections taken from the growing edge. (3) *Chorion-epithelioma of the uterus* preceded by vesicular mole, and associated with unusual nervous symptoms. The mole, retained for seven months, was removed from a multipara of 47. Involution took place, but two months later the uterus had enlarged, and profuse haemorrhage took place. Rigors and an elevated temperature occurred three days before operation. After hysterectomy, on October 3rd, 1909, severe shock was present, the temperature fell to 95°, and stupor developed, followed by convulsions, ptosis, loss of sphincteric control, and increased tendon reflexes. Gradual recovery took place, but the illness was a blank in the mind of the patient. She went home weak, but otherwise well and able to walk. Two months later contractures developed, and death took place in January, 1910. The cause of the cerebral symptoms was undetermined, as no necropsy was obtainable. It was possibly a toxaemia followed by encephalitis and cerebral softening, as the gradual onset negatived a metastatic embolus, and no definite symptoms of cerebral tumour were present. Dr. A. J. WALLACE (Liverpool) showed an enlarged uterus removed from a woman aged 67. Before operation its upper border reached 10 in. above the pubes, and it measured 9¾ in. transversely. The enlargement had been noticed for three months only. On examining the tumour after removal it was found to be apparently a mere shell of uterine wall containing altered blood. The anterior wall had an average thickness of ¼ in., the posterior of ¾ in. Complete section of the "shell" demonstrated a layer of undoubted myomatous tissue of varying thickness in the posterior wall and an apparent thin layer of similar tissue in front. There was no trace of the cavity of the corpus uteri, except near the internal os, where a few flattened glandular elements suggested the remains of endometrial glands. The condition had had

its origin from a myoma which had become cystic; haemorrhage had occurred into the cyst, the resulting distension of which had produced obliteration of the endometrial cavity and enormous enlargement of the senile uterus. Mr. R. Favell (Sheffield) reported a case of *Impacted ureteric calculus*, which had clinically simulated a uterine fibroid. It was discovered after the body of the uterus, which contained several small fibroids, had been removed.

BATH CLINICAL SOCIETY.

Friday, December 2nd, 1910.

Mr. F. Lace, President, in the Chair.

Mr. Donald Ackland, in a paper on *Oral sepsis*, showed that many obscure illnesses and pathological processes were frequently the result of, or secondary to, septic conditions of the mouth, nose, and nasal sinuses, the gastro-intestinal tract and glands opening into it becoming infected from oral, nasal, and auditory suppurative processes. Even diseases such as arthritis and teno-synovitis were in many instances but symptoms of the primary trouble—the oral sepsis. Of the conditions included under this heading pyorrhoea alveolaris and its treatment by the vaccine method were more especially discussed.

Reviews.

GLAUCOMA.

Dr. Thomson Henderson's book on glaucoma[1] is, without doubt, the most remarkable work upon this subject which has appeared in the English language since the book which rendered Priestley Smith so justly famous. It brings together in one volume papers which have appeared in ophthalmic journals during the past few years—papers recording work which at once place Dr. Henderson in the forefront of ophthalmic pathologists.

We shall probably not be far wrong in surmising that the theories advanced are being considered and discussed in every capital of the globe where ophthalmic surgeons are found, and that the author will meet with much criticism from supporters of older hypotheses than those he advances. We may state at once that the book is profoundly interesting, and that the facts discovered are most valuable, and can in most cases hardly be refuted. The theories based upon observed fact and experiment are plausibly urged and in most cases appeal to sound common sense and hard logic, but in some respects they are carried too far and supported rather by bare dogmatism than good reasoning. The only criticism which can be urged to the style of the author is a wearisome repetition, which is most trying to the intelligent reader, nor are the constant summaries at all necessary for the class of men who are likely to read the volume.

Part I deals with the anatomy of the eye, and is by far the best part of the work. Here Dr. Henderson is dealing with facts—facts which he has proved by the most patient and accurate histological research.

The current conception of ocular tension is that it is due to pressure exerted upon the sclera by its contents; the tension is a question of intraocular volume, depending upon the balance maintained between excretion and secretion. Hypersecretion, or throttling of the paths of exit, causes hypertension; a lowered secretion, or wide channels whereby fluids may escape, should cause low tension. The globe is, in fact, an elastic capsule distended by fluid. This theory, elaborated by Leber, has obtained wide credence. Henderson, however, will have none of it; the application, he says, of the magnificent work by Leonard Hill on the nature of the intracranial pressure applied to the eye completely disproves this volumetric conception of intraocular pressure. Hill has shown that in the closed and rigid cranium the intracranial pressure is the same as the intracranial venous pressure. Henderson tells us that he has proved by manometric measurements that intracranial and intraocular pressure is under normal conditions absolutely the same as that of the general venous pressure. The maintenance of the form of the normal living eye thus depends, not upon the pressure exerted from within, but upon the rigidity of its outer covering.

The author's careful examination of serial sections has led him to readjust entirely the orthodox teaching of the anatomy of the angle of the anterior chamber, of the canal of Schlemm, and of the vascular arrangements in the ciliary region. Erroneous ideas have arisen because of the unavoidable obliquity of the sections. Only when the eye is reconstructed from serial sections can the correct relationship be obtained. The angle is a true angle, not a sinus. It has been considered to be a sinus because eyes were hardened in Müller's fluid, which causes a detachment of the ciliary body and a tilting of this body and distortion of the open angle into a sinus. The *ligamentum pectinatum*, which Henderson would call the *cribriform ligament*, does not arise from Descemet's membrane, but is a continuation of fibres of the *substantia propria* of the cornea. It forms the true ligament of the ciliary muscles. As age advances it becomes more and more sclerosed, until ultimately in pathological circumstances filtration between its fibres becomes increasingly difficult if not impossible. The aqueous, which Henderson holds, and we believe rightly, to be a true secretion and not a transudate, from the ciliary body finds its exit through these fibres into Schlemm's canal. There is another excretory path, the crypts of the iris. If the ligamentum pectinatum be so sclerosed that filtration is difficult, the iris crypts are very important in carrying on the circulation. There is free passage through the cribriform ligament also into the suprachoroidal space. This channel has been demonstrated by injection experiments with Berlin blue.

Compression of the iris base in glaucoma, upon which Priestley Smith laid so much stress, does not exist. The apparent compression is due to the section passing through an iris furrow, and not an elevation. Again, serial sections show that there is a true dilator pupillae which is not a continuous structure. It consists of isolated fasciculi arranged around and in front of the radial furrows of the iris.

The vascular details at the iridic angle, as discovered by Henderson from serial sections, are in many respects very different to those described by Leber, and accepted without question. When we state that he claims that the anterior ciliary arteries and the circulus iridis major are in reality not arteries but veins, the revolutionary character of the changes will be partially grasped. As the author well points out, such an enormous arterial supply as Leber allowed the iris would be quite unnecessary, but a large vein supply is useful to carry off the aqueous humour absorbed by the iris crypts.

Part II deals with the physiology of the circulation in the eye. Here the author is not upon such sure ground, and many though accepting his anatomical facts—and they can hardly be disputed—will reject his theories either partially or *in toto*. We have not the space here to enter into the destructive criticism of Henderson's hydrodynamics, but we would point out that he avoids all mention of eyes with pathologically lowered tension. Chronic irido-cyclitis often ends in a soft eye, it may be one like a pudding bag with no tension. In such a globe the tension is manifestly lower than the intravenous tension, for this is, according to the theory, the tension of the normal eye. The orthodox hypothesis says that the diseased ciliary body no longer secretes or transudes aqueous. How will Thomson Henderson explain it? The statement that the form of the eye is due to its rigid envelope we cannot accept, for we know that when tension is removed it can partially collapse, nor can we regard the author's explanation as at all satisfactory. The paragraphs upon cupping of the disc can only be described as pure dogmatism. A typical glaucoma cup has recently been figured as the result of poisoning with wood alcohol, and the deepest form of cup has developed in fourteen days in an eye which had had iridectomy and in which the tension never rose above normal. The views of Schnabel, of Schmidt-Rimpler, and others, cannot be dismissed by a few *ex cathedrâ* statements. On page 212 we read, "Cupping of the disc is bound to follow any increase of tension however slight." And yet we all know that in acute glaucoma, with a very hard eye, there is generally no cupping at all. Again, what is the warrant for the state-

[1] *Glaucoma*. By Thomson Henderson. London: Edward Arnold. 1910.

ment on page 214: "Head work increases the intracranial and intraocular tension"?

While not totally accepting the author's views regarding the hydrodynamics of the eye, we must admit that they have much in their favour. The question may well be asked, Are there two theories mutually destructive; cannot both factors influence the tension?

We congratulate the author upon the completion of a research which can only be described as one of the most brilliant pieces of ophthalmological work of the present century.

SERUMTHERAPY.

SOME short time ago Wassermann published an excellent little book on immune serums, in which much information was contained dealing with various therapeutic serums and immunization processes. Now WOLFF-EISNER has presented to the German-reading medical public a large book which is the work of many authors, and deals with almost every conceivable aspect of serum-therapeutics and experimental therapy.[2] The authors of the various chapters are in part great authorities on the subjects on which they write, and are eminently capable of presenting their subjects in a useful and practical manner. Ehrlich, for example, devotes ten and a half pages to the subject of chemotherapy, and does it in a masterly way. Some of the chapters are written by authors who have peculiar views, and the matter is presented not without bias. In the general part, Wolff-Eisner gives an account of hypersensibility, but we would regard it inadvisable for a student of immunity to accept views of this subject from this author. The author would have been better advised if he had resisted the temptation of quoting his own opinions, and if he had dealt with facts and not merely with theories. Even the bibliography of the subject is ill given, many of the more important works being entirely ignored, while others of minor importance are cited.

The chapter on the serum treatment of snake-bite is written by Calmette. Here again the individual views of the one author are prominent at the expense of work of others. In brief, it may be said that Calmette believes that an anticobra serum is active against the venom of all snakes—a view which is not shared by the majority of authorities on the subject. Several chapters deal with serum-therapeutics of staphylococcic, streptococcic, pneumonococcic infections, and the like. In a similar manner, Deutschmann deals with his own serum. In all these chapters the activity of the various serums is regarded somewhat subjectively from the point of view of the individual interested. In other cases, however, the fault lies in the other direction, and the author chosen is one who has already actively attacked the introducers of the serum. Wolfsohn gives a lengthy account of vaccine-therapy. The general account is excellent and puts forward Wright's views almost colourlessly. But the so-called special part is even better. Here a healthy criticism is exercised with moderation and judgement. The only fault that we have to find with the account is that the reader is given to understand that the only adverse criticism of the reliability of the opsonic index as a measure of immunity issues from Continental countries. The author seems to be quite unaware of the work of Strangeways, Greenwood, and others in this country. Kolaczek gives a good account of the antiferment treatment; but the chapter by Carl Lewin on the serum treatment of malignant tumours is weak. In spite of these and other shortcomings, the book is valuable, and its uses are enhanced by a tabular survey of the serums now on the market by Wolff-Eisner. It will doubtless find friends both in the laboratory and in the hospital, but we should hope that before it is extensively used in private practice some of the chapters will be rewritten or commented upon in footnotes.

[2] *Handbuch der Serumtherapie und experimentellen Therapie: Ein Handbuch für Klinik und Praxis.* Edited by A. Wolff-Eisner, with the co-operation of F. Blumenthal, Boruttau, Calmette, Deutschmann, Eckert, Ehrlich, Flexner, Freund, Hahn, Kolaczek, Kraus, Hirsch, Kruse, Lewin, Mayer, Michaelis, Rodet, Römer, Senator, Schnütgen, Seitz, Sobernheim, van der Velde, Wechselmann, and Wolfsohn. Munich: J. F. Lehmann. 1910. (Large roy. 8vo, pp. 408; a plate and 9 curves. Price not given.)

THE CLINICAL LABORATORY.

WE have much pleasure in drawing attention to Dr. R. W. WEBSTER'S *Textbook of Diagnostic Methods for the Clinical Laboratory*.[3] The book is eminently suited for the use of the clinical assistant or house-physician or for any worker in the clinical laboratory of a hospital. He introduces his book by a modest and engaging preface, and the work is worthy of all praise. It is abundantly illustrated, Miss Hill's bacteriological drawings calling for special commendation. Under "sputum" the author refers to the "ordinary paper spit-cups," which can be burned as occasion may demand; these have not come into ordinary use in this country, and might be introduced more generally with advantage. In discussing the examination of the stomach contents he criticizes the usual method for determining the total acidity and points out that this must vary with the concentration of the stomach contents, and that, as in estimating sugar in the urine, we ought to know the total amount, in order to be able to compare one case with another. He therefore recommends that the stomach should be carefully emptied; but even if this were possible, we do not know how much may have escaped through the pylorus, and therefore, while we accept his criticisms as valid, we believe the sounder conclusion to be that the attempt to determine the total acidity is waste of time. We disagree with his teaching that the stomach is practically never empty, as, except for the presence of a little mucus and saliva, it is not only empty, but sterile. We see no object in having the stomach emptied the night before a test meal; it is sufficient if it is emptied early in the morning, and, further, seven or eight hours after a meal is too long for the estimation of stasis, as minor degrees may be overlooked if this rule is followed—six hours are sufficient. In giving the signs of cancer it should be pointed out that the presence of lactic acid and the Boas-Oppler bacillus depends upon the absence of hydrochloric acid, and not upon the presence of cancer. If hydrochloric acid is present, lactic acid and the bacillus are absent; if the acid is absent, they may be found, although there is no cancer, and, of course, cancer is not the only cause of the disappearance of hydrochloric acid. We have not found the benzidine test for traces of blood "too delicate," and after a considerable experience of it we are well satisfied of its value; we are in the habit of using a saturated alcoholic solution of benzidine with H_2O_2. There are too many methods given under urinary analysis; it would be better to give those only upon which the author relies, or at least to indicate them, as the wide choice given to a beginner can only confuse him, and there are many tests for albumen, for example, which are of no clinical value. Under "glycosuria" the author should have referred to the frequent observation of transitory glycosuria after drinking alcohol, especially beer and champagne, but also after any alcoholic drink. The omission is all the more inexcusable as he gives a number of drugs, such as strychnine, cocaine, and adrenalin, which are far less likely to cause mistakes in practice. Fermentation as a means of quantitative estimation of sugar in the urine is very fallacious when carried out with the little instruments which profess to show the quantity on a scale, as variations in temperature and pressure influence them too much; but the old method devised by Sir William Roberts is both practical and accurate, and deserves to have found a place here. Like so many other writers, the author mentions Cammidge's test, but expresses no opinion on its value. Le Nobel's test for acetone is given, but the Belgian chemist's name is misspelt. Hay's test for bile acids, again, appears here without a word of warning of its clinical futility. There is a good and clear description of the mode of performing lumbar puncture and of the information to be derived from it. The examination of the blood receives adequate consideration—in fact, occupies nearly a third of the book. The utility of the work is enhanced by the provision of an excellent index.

[3] *Diagnostic Methods, Chemical, Bacteriological, and Microscopical, A Textbook for Students and Practitioners.* By Ralph W. Webster, M.D., Ph.D. London: Rebman, Limited. 1909. (Roy. 8vo, pp. 668, 37 coloured plates, 164 illustrations. 26s.)

BACTERIOLOGICAL CHEMISTRY.

DR. PRESCHER and VIKTOR RABS are the authors of a new German handbook of bacteriological chemistry.[4] It is a neatly compiled volume of varied contents interesting alike to the doctor, chemist, pharmacist, and student to whom it may serve as a guide in bacteriological, chemical, and analytical investigations. There is no doubt of the practical value of the publication as far as it relates to chemical analysis, and, if properly used, it will be found to be a most useful book of reference. We feel some hesitation in praising the bacteriological portions, for while the material dealt with covers much ground, the descriptions are too elementary for the practical bacteriologist and not minute enough for the general practitioner, whose many duties and little practice will necessitate explicit details for the carrying out of his own diagnosis work. The rough general discussions may pass as sufficient for the requirements of the book, but we are inclined to regret that Dr. PRESCHER and Herr RABS have wasted several pages on cursory descriptions of the preparation of nutrient media, a subject which no amateur or general practitioner whose time is fully occupied with his patients will have leisure to attend to. The preparation of media in the well-equipped laboratory must necessitate a much more detailed guide. Notwithstanding these and similar shortcomings, even the bacteriological portion contains much information of a useful character for the practitioner. The student of medicine might find a handy summary in the pages of this book regarding matter of bacteriological interest, but we could scarcely recommend him to study this book for the purpose. What the pharmacist wants with these bacteriological examinations we cannot imagine. The book does not present the subject in a manner calculated to teach him the essentials of bacteriology for the purpose of gaining a sound theoretical knowledge, and we distinctly object to the pharmaceutical chemist undertaking the work of the bacteriologist. The pure analytical chemist will probably require a sounder theoretical knowledge of this science if he is interested in it at all. As was indicated above, the chief value of the book lies in its chemical analysis. But here, again, we must not be misunderstood. The book is not a treatise on chemical analysis, and the student, practitioner, pharmacist, or amateur who has not a fair ground knowledge in chemistry will probably not be greatly assisted by the book. The methods of analysing water, milk, foodstuffs, etc., for common constituents and common impurities are clearly set forth. The pages are filled with succinct qualitative and quantitative tests for various substances, and in the hands of a person who knows how to apply chemical analytical methods will be found highly useful. Clinical chemistry is dealt with, as well as the analytical chemistry of water, milk, butter, margarine, cheese, wine, etc. Urine, faeces, blood, and gastric contents are dealt with adequately, and the most simple and yet the best recognized tests are set out. The authors are somewhat fond of introducing equations for the determination of constituents or physical characters from ascertainable values. At first sight these equations might appear to the medical man, who does not frequently indulge in chemistry more complicated than the heat test for albumen in urine, as bewildering, but we can recommend him to use the equations given. They are reliable, simple, and time-saving. On the whole, we may sum up the chemical part of the book—the lion's share of the book—as of value to the student and medical practitioner who has some elementary knowledge of chemistry, of use to the pharmacist who has to carry out analytical work from time to time, but probably not of much value to the analytical chemist, to whom it will be elementary. Medical officers of health are likely to find it an assistance in their work, and we can recommend it especially to them.

EVOLUTION OF PURPOSIVE MATTER.

THE *International Scientific Series* has done much to aid the dissemination of knowledge amongst many classes of people, and not a few of its volumes have become classics. Dealing with the most fundamental problems of science in a manner shorn of extreme technicality, they have appealed to a wide circle of readers. In one of the most recent of the series we are furnished with an account of *The Evolution and Function of Living Purposive Matter*, by Mr. N. C. MACNAMARA.[5] Starting with the lowest class of animals, the author shows that in the protozoa the purposive elements are diffused throughout the body substance. It is impossible to account for the reactions which these simple organisms display towards stimuli by reference to chemical or physical forces alone, and it is not unreasonable to suppose that their protoplasm is endowed with a purposive function and that it is able to store impressions. From this undifferentiated condition the next step is to the rudimentary nervous elements of the sponges. The development of these into well-marked nerve tissue, its aggregation into the form of ganglia, and eventually into a definite central nervous system, is then traced throughout the lower classes of invertebrates. The origin and structure of the brain, and in particular those parts of it known as the fungiform bodies in insects, forms an interesting chapter. The first appearance of the basal ganglia in the lower vertebrates is then described. The function of these is to change stimuli received from outside into the instinctive and emotional movements characteristic of the various animals. These ganglia assume a greater importance in the higher vertebrates, and form a very prominent part of the brain. It is in the reptiles that we first find traces of that form of nervous matter the function of which is to elaborate psychical processes. This psychical nervous substance owes its origin to the basal ganglia, and it is from the latter that the great mass of the brain in man and the apes has developed. A short summary is given of the structure of, and the functions performed by, the psychical areas of the cerebrum, and the mechanism whereby the stimuli derived from sense organs are transmuted into sensations, ideas, and intellectual processes. In order to test the soundness of the conclusions arrived at in the foregoing comparative study, the author devotes the second part of his book to an outline history of a tribe of Celts who settled in the west of Ireland in the middle of the fifth century. Their descendants remained "on the same lands, an unmixed race, in a fairly constant environment," for the space of twelve centuries. This story of tribal laws, customs, quarrels, and warfare is more or less a reprint of an earlier work now out of print, and it shows to what an extent the instinctive and emotional faculties exert an influence in forming the hereditary character of individuals, and shaping the destinies of the race to which they belong. The book is written in a pleasant manner, and though not free from some errors, contains an abundance of well-chosen quotations and references.

NOTES ON BOOKS.

Feeding and Care of Baby[6] is a book issued by a New Zealand organization, the Society for the Health of Women and Children. Its compiler's name is not mentioned, but he or she is indubitably a person of much energy, for the book contains a very large quantity of useful information, collected from an immense number of different sources. The interest of these is increased by numbers of excellent photographs and diagrams. We hardly imagine, however, that the most anxious mother is likely to absorb all its contents, for, in order to keep the book within reasonable limits, very small type has been used, and the paragraphs dealing with different points are so scattered that it is impossible to be certain that one has found all the information that is supplied by the book on any given subject. To make the book thoroughly useful, the scheme of its construction requires modification and many of the long quotations might be omitted with advantage.

The latest issues of the *Archives of the Middlesex Hospital*[7] include two fasciculi of the clinical series and the

[4] *Bakteriologisch-chemisches Praktikum.* By Dr. Joh. Prescher and Viktor Rabs. Second edition. Würzburg: Curt Kabitzsch. 1910. (Demy 8vo. pp. 314; 61 illustrations in text, 4 plates, and 2 tables. 5s. 6d.; in cloth, 6s. 4d.)

[5] *The Evolution and Function of Living Purposive Matter.* By N. C. Macnamara, F.R.C.S. London: Kegan, Paul, Trench, Trübner and Co. 1910. (Cr. 8vo, pp. xi and 298. 5s.)

[6] *Feeding and Care of Baby.* Issued by the Society for the Health of Women and Children. Dunedin: Mills, Dick, and Co. 1910. (Cr. 8vo, pp. 143. 1s.)

[7] *Archives of the Middlesex Hospital*, vols. xix, xx, and xxi. London: Macmillan and Co.

ninth report relating to the Cancer Research Laboratories. In the former are some thirteen papers, among which are specially worthy of note a most informing investigation by Dr. Otto May of the after-histories of 65 patients on whom gastro-enterostomy had been performed for non-malignant diseases; a study by Dr. W. Pasteur of 5 cases in which active lobar collapse of the lung followed abdominal operations; and a well-illustrated paper on the diagnosis of malarial fevers by Mr. H. W. Acton, of the Indian Medical Service. Also included in these volumes are the reports for the year 1909 of the pathologist, Dr. C. E. Lakin, and of the medical, surgical, and obstetric registrars, Dr. O. May, Mr. Cecil Rowntree, and Dr. F. E. Taylor respectively. Among the twenty-seven cancer papers appear a description of a new method for the study of leucocytes by Dr. Helen Chambers, the usual synopses of cases of malignant disease treated last year by Dr. Lazarus-Barlow and his assistants, and some studies on the sodium and potassium contents of normal and carcinomatous tissues by Dr. J. C. Mottram. Dr. Beckton also supplies accounts of further work on Altmann's granules in various tissues, while primary malignant disorders both of the intestine and colon and of the rectum are statistically considered by Drs. H. A. Colwell and E. Musgrave Woodman. Other papers are a first communication on the influence of x rays on the development of the silkworm by Mr. Somerville Hastings; two studies on abnormal growths in dogs by Dr. Bryden Glendining, and on the spread of malignant disease in the pelvis, by the same author; and finally a second communication on the nature of the skotographic substance in tissues by Dr. Lazarus-Barlow himself and Dr. J. C. Mottram.

The second volume of the twentieth series of *International Clinics*[8] contains some twenty papers, of which five are devoted to medical diagnosis and treatment, three to general medicine, three to cancer, two to surgery, and three to obstetrics, the balance being of a miscellaneous character. The proportion of British writers is larger than usual, Edinburgh contributing two papers on eclampsia—one by Dr. Ballantyne, the other by Dr. Jardine—while Professor Arthur Whitfield, of King's College, deals with seborrhœa and its consequences, and Mr. Leslie Buchanan, of Glasgow, with epithelial tumours of the eyelids. Also included are a careful paper on the relation of school furniture to the creation and prevention of lateral curvature of the spine, and reviews of the progress of medicine and therapeutics during the past twenty years by Professor Walsh, of New York, and Dr. A. L. Benedict, of Buffalo, respectively.

The title *Vaccine Therapy: Its Administration, Value, and Limitations*[9] is somewhat misleadingly applied to a volume which has reached our hands, for it is not, as might be supposed, a monograph on the subject, or even a summary of existing knowledge thereon. It is the report of a debate on vaccine therapy which took place at the Royal Society of Medicine last summer, and occupied six general meetings. The discussion was opened by Sir Almroth Wright, who was followed by some thirty-three other speakers. For the most part, each speaker expressed his own views and experiences without much reference to those of others. All the speakers are seemingly reported verbatim, and this makes the record somewhat lengthy. The volume is worth reading, as it is a record of the views held at the time by a large proportion of those in England who have paid special attention to this subject. Dr. NACHBAR, who has edited the volume for the society, has supplied an index which adds materially to its usefulness.

The twenty-second volume of the *Transactions of the Southern Surgical and Gynaecological Association*[10] covers the twenty-second annual meeting of this American society. It was held a year ago under the chairmanship of the president of the society, Professor Stuart Squire of Richmond, Virginia, and included the reading and discussion of some forty-five papers. The majority deal with general surgery, and several interesting cases are recorded. Among the authors are Dr. W. B. Coley, who deals with the increase of cancer; Dr. W. G. Crile, who reports briefly an experimental and clinical research into nitrous-oxide as opposed to ether anaesthesia; Mr. C. H. Mayo, who discusses the diagnosis of hyperthyroidism; and the president of the society, who devoted his address to latent and active neurasthenia in relation to surgery.

[8] *International Clinics.* Edited by Henry W. Cattell, M.A., M.D., with the collaboration of various authorities. Vol. ii. Twentieth series. 1910. Philadelphia and London: J. B. Lippincott Company. (Pp. 304. 35s. net.)

[9] *Vaccine Therapy: Its Administration, Value, and Limitations.* London: Longmans, Green, and Co. (Sup. roy. 8vo, pp. 216. 4s. 6d.)

[10] *Transactions of the Southern Surgical and Gynaecological Association.* Vol. xxii Edited by W. D. Haggard, M.D. 1910. Philadelphia: Published by the Association. Pp. 561. (Demy 8vo)

MEDICAL AND SURGICAL APPLIANCES.

Forceps for the Removal of Michel's Clips.

DR. J. WALLACE MILNE of Aberdeen has devised a new forceps for the removal or for the disengagement and refastening of Michel's clips after insertion. The forceps has ordinary scissor handles, a take-off joint, and cranked blades ending in fine straight rods for insertion in the cylindrical loops at the outer sides of the clips. One blade is about a sixteenth of an inch longer than the other, and serves to steady the clip whilst the second is inserted. To straighten out the bent clip, the engaged fingers must be separated, but the leverage is ample. The advantages claimed for this instrument are, that there is no fear of the painful jerk experienced by the patient when an instrument constructed to spread the spikes by pressing down the apex of the arch slips off the top; as compared with the "two hooks" method of removal, the new forceps permits of immediate readjustment of the hook if it be found that the wound will gape. The facility of reclosure also permits opening a small extent of the wound to give egress to pent up serum, without detriment to the ultimate cicatrix. The forceps can be obtained from Messrs. Pettie and Whitelaw, Aberdeen.

Quartzlite Light.

We have had an opportunity of inspecting a type of electric light apparatus recently brought out by the Brush Electrical Engineering Company. The actual light is furnished by a stream of mercurial vapour rendered incandescent *in vacuo* by the passage of a current of electricity. In essence, in short, the device is an ultra-violet light, in the neighbourhood of which a certain amount of ozonization of atmospheric oxygen occurs. As a naked light it is, of course, unsuitable for illuminating purposes, but when covered in by a special form of globe which the firm has devised, the illumination supplied is excellent. The special point about it is a combination of brilliancy and penetration with marked diffusion and an absence of anything in the nature of glare. The apparatus in its present form is intended for use in large halls and in open spaces, and for such purposes should become popular. It is stated to continue to work in full force, and without flickering, for not less than a thousand hours. On the same occasion we also saw some of the Metallum lamps, made by the firm for use in private houses. The filament is composed, we understand, of colloid-tungsten, and is apparently not fragile, for we found that the lamps could be shaken without fracture. The globes surrounding the filaments can be procured either pear-shaped or round as desired, there also being an option between clear and frosted glass.

MEDICINAL AND DIETETIC PREPARATIONS.

Coryza Vaccine.

AMONG recent products issued by the Wellcome Physiological Laboratories (Messrs. Burroughs, Wellcome, and Co., Snow Hill, E.C.) are three coryza vaccines, for use, according to the nature of the infection, in different cases of coryza. These vaccines are supplied in small hermetically-sealed vials, each holding a dose of 1 c.cm., this quantity containing 100 or 200 million organisms. No. 1 contains *Bacillus septus*, No. 2 *Micrococcus catarrhalis*, each of these having 100 million in the dose, while No. 3 contains 100 million of each of these organisms.

"Encore Crystal" Gelatine.

We have received from Messrs. Bischof and Brooke (35, Brooke Street, London, E.C.) a sample of gelatine in powder, which they have put on the market under the above name. Our analysis shows it to be a gelatine of excellent quality, containing only 1.35 per cent. of mineral matter, and forming a practically colourless and tasteless jelly when dissolved in water. Being in fairly fine powder, it is more easily and quickly dissolved than many other makes, and for the domestic production of jellies of all kinds and for thickening soups, etc., it will doubtless prove very acceptable.

THE COMPOSITION OF CERTAIN SECRET REMEDIES.*

NERVE TONICS, ETC.

We publish here the results of analyses of a number of proprietary medicines which fall under the general description of "nerve tonics." Some of these are principally advertised as nerve and general tonics, while others are more particularly put forward for curing the effects of sexual excesses; certain of the latter, like some of the medicines which have been dealt with in previous articles, are ostensibly prescribed for individual cases in accordance with the answers supplied by the purchaser to printed sets of questions.

Phosferine.

This widely-advertised preparation is supplied at 1s. 1½d. and 2s. 9d. by Ashton and Parsons, Limited, London. A 1s. 1½d. bottle was found to contain 2 fluid drachms, and a 2s. 9d. bottle just over 1 fluid ounce.

Phosferine is described in an advertisement as

The Greatest of all Tonics.
A Proven Remedy for
Nervous Debility, Influenza, Indigestion, Sleeplessness, Exhaustion, Neuralgia, Maternity Weakness, Premature Decay, Mental Exhaustion, Loss of Appetite, Lassitude, Neuritis, Faintness, Brain Fag, Anaemia, Backache, Rheumatism, Headache, Hysteria, Sciatica, and disorders consequent upon a reduced state of the nervous system.

In a circular enclosed in the package it is stated that

Phosferine is a potent strengthening medicine, withal gentle in its action and perfectly harmless; being akin to gastric juice, it rests and restores the digestive organs and regulates the bowels to normal action.

The public cannot be too strongly warned against the many purging medicines advertised for indigestion, etc., which are not only a fruitful source of piles, but injure the coating of the stomach, and sap the very gastric juice Nature is straining herself to supply.

Unlike other tonic medicines, Phosferine does not injure the teeth, or upset the stomach and cause constipation; on the contrary, it will be found beneficial in these conditions.

Phosferine may be taken at all times with benefit; there is no possible objection to its continued use either as an appetizer or a general strengthening and nerve remedy.

Somewhat varying directions are given as to the quantity to be taken for different ailments, the dose being stated as from five to ten drops, to be taken from twice to four times a day.

Analysis showed the presence of alcohol, quinine, phosphoric acid, and a little sulphuric acid; a trace of sodium salt was found, but this was probably an accidental impurity in the phosphoric acid; no other ingredient could be detected. Expressing the acids as the dilute acids of the *Pharmacopoeia*, and the quinine as the ordinary official sulphate, the formula arrived at is

Quinine sulphate	0.67	part	
Diluted sulphuric acid ...	2.5	parts	by measure
Diluted phosphoric acid ...	54.6	,,	,,
Alcohol	8.1	,,	,,
Water ... ... to	100	,,	,,

The estimated cost of the ingredients for 1 fluid ounce (2s. 9d. bottle) is ½d.

Guy's Tonic.

This is a liquid prepared by Guy's Tonic Company, London. A bottle priced 1s. 1½d. contained 6 fluid ounces. In a circular enclosed in the package it is stated that:

Guy's Tonic is a rich Cordial prepared from Vegetable Tinctures and other curative agents found in the British Pharmacopoeia. . . . Guy's Tonic is not put forward as a Remedy for "all the ills to which flesh is heir," for no such thing as a "Cure-All" exists. It is, however, confidently recommended for the specific Ailments enumerated. . . . The use of Guy's Tonic will be attended with the happiest results in:—

1. Disorders of the Digestive System: Dyspepsia, Heartburn, Loss of Appetite, Pain after Food, Flatulence or Wind, a sensation of Nausea (Sickness), furred or white-coated Tongue, unpleasant Breath, disagreeable Taste in the Mouth, Drowsiness after Eating, a feeling of weight or discomfort in the Chest, palpitation of the Heart, shortness of Breath, and Acidity of the Stomach.

2. Functional Derangements of the Liver: Sluggishness, Congestion, Constipation, Biliousness, Despondency, Dizziness, Sallowness of the Complexion, Blotches on the Skin, dull pains between the Shoulders, variable Appetite, Headache, disturbed Sleep, Lassitude, and Irritability.

3. Disorders of the Blood: Anaemia, Emaciation, Paleness, Weariness, and Disorders dependent upon a Vitiated or Impoverished condition of the Vital Fluid.

4. Nervous Maladies: Neuralgia, Nervousness, Hysteria, Giddiness, Alcoholism, disturbed Sleep, unpleasant Dreams, confused Thoughts, lack of Confidence, Loss of Memory, Depression, Melancholy, Exhaustion, Languor, and affections due to Malnutrition of the Brain and Spinal Cord.

5. General Diseases: Gout, Rheumatism, Rheumatic Gout, Lumbago, and Disorders characterized by Perverted Nutrition and Lack of Vital Force.

6. Convalescence from Acute Diseases: also in cases of recovery from Influenza, Fevers, Bronchitis, and other exhausting Diseases, and in General Debility and Prostration from whatever cause arising.

The dose is stated on the label to be:

For adults, one tablespoonful. Under 9 years, one dessertspoonful. Under 2 years, one teaspoonful.

Analysis showed it to contain small quantities of hydrochloric and phosphoric acids, alcohol, bitter and aromatic substances and colouring matter, and a trace of chloroform. No alkaloid was present; the bitter and aromatic substances present in very small amount agreed well with those of the official compound infusion of gentian; the behaviour of the colouring matter indicated that it was cochineal. The quantities of the two acids and the alcohol were determined, and the amounts of the other ingredients estimated by methods of comparison. The following formula gives an exactly similar mixture:

Diluted hydrochloric acid ...	0.59	parts	by measure.
Diluted phosphoric acid ...	0.52	,,	,,
Alcohol	2.27	,,	,,
Compound infusion of gentian	40	,,	,,
Chloroform water	50	,,	,,
Cochineal colouring	a sufficiency		
Water	to 100	parts	by measure.

The estimated cost of the ingredients for 6 fluid ounces is ½d.

Vitae-Ore.

The article sold under this name is supplied by the Theo. Noel Company, Limited, London, price 4s. 6d. per package.

An offer to send a package, containing sufficient for one month, to be paid for only if benefit is received, is largely advertised. The advertisement usually includes an illustration of a man's head, said to represent "Prof. Theo. Noel," described as the well-known geologist. The following are extracts from one of these advertisements:

I discovered by accident the dried residue of the greatest curative spring in the world. It seemed worth while to try whether this, when redissolved, would have mineral spring virtues. The results astonished me and those who experienced them. The spring was a marvel—far exceeding anything that Homburg, Harrogate, Aix, Bath, or any other spa can show. Some untraceable element defying the chemist's analysis—is it Radium?—enters into the rock. Whatever the element may be, its effect can be distinctly felt when the drink made from this deposit, which I call Vitae Ore, or "life-rock," is taken as a beverage. Those who use it say that it gives a degree of buoyant, cheerful energy, which they never, perhaps, experienced before.

Everyone knows a few people with health and vigour to spare—the men whose breezy personality carries all before it, so that no one can resist them; the women whose warm bloom and feminine grace capture all hearts. Well, Vitae Ore will give these things to ALL, if used as I will tell you how to use it. No artificial drug enters into it. No artificial drug can rival its effects.

Whether you are well or ill—strong or weak—Vitae Ore will give you new life. Under its influence Nature herself cures

Rheumatism	*Dropsy*	*Constipation*
Sciatica	*Catarrh*	*Nervous*
Gout	*Indigestion*	*Exhaustion*
Anaemia		

and all Liver, Blood, and Stomach Diseases. . . .

Its effect in giving new vigour and nerve-force to people of mere ordinary health, turning them into noticeably and radiantly strong men and women, makes it worth using in every case. . . .

How to use Vitae-Ore.

Vitae-Ore comes to you as a box of powder. You simply dissolve it in a pint of cold water, and of this mixture drink a teaspoonful in a half-tumbler of water three times a day, and

* Previous articles of this series were published in the following issues of the British Medical Journal: 1904, vol. ii. p. 1585; 1906, vol. ii, pp. 27, 1645; 1907, vol. i, p. 213; vol. ii, pp. 24, 160, 209, 393, 530, 1653; 1908, vol. i. pp. 833, 942, 1373; vol. ii, pp. 86, 505, 1022, 1110, 1193, 1285, 1566, 1697, 1875; 1909, vol. i. pp. 31, 909, 1128; vol. ii, p. 1419; 1910, vol. i, pp. 151, 213, 393, 1005, 1063, 1120; vol. ii, pp. 982, 1350, 1928.

at bedtime, for a month. In a few days, a week, or later, according to your present condition, you will begin to notice greater strength, better digestion, higher spirits, a clearer complexion, a healthier appetite. These are the effects of the new vitality in Vitae-Ore.

A 4s. 6d. package contained 137 grains of the substance; analysis showed it to contain a slightly basic but soluble iron sulphate, magnesium sulphate, and combined water; the quantity of each constituent was determined and found to be as follows:

Ferric oxysulphate, calculated as anhydrous	47.57	per cent.
Magnesium sulphate, calculated as anhydrous	15.89	,,
Water, in combination ...	36.54	,,

No other substance was detected. The iron, magnesium, sulphate, and water were all determined separately, and, as the figures add up to 100.00 per cent., not much is left for "some untraceable element defying the chemist's analysis." If the directions, quoted above, are followed, each dose would contain:

Iron oxysulphate, anhydrous ...	0.47	grain.
Magnesium sulphate, anhydrous ...	0.15	,,

The estimated cost of the ingredients contained in one package is about one-eighth of a penny.

SEQUARINE.

Sequarine is supplied by C. Richter and Co., London, at the price of 8s. a bottle, holding 1 fluid ounce. It is advertised as "The New Serum Cure," and both newspaper advertisements and the descriptive pamphlet sent on application include what is stated to be a portrait of "The Discoverer, Dr. Brown-Sequard, F.R.S." It is stated in the pamphlet that:

Since the discovery of blood circulation by Harvey there has been no greater addition to the forces of medical science than the strength producing element discovered by Professor Brown-Sequard, F.R.C.P. (London), L.L.D. (Cambridge). This element, which is the Serum-Sequarine, has already become an indispensable aid to physicians. . . . The new serum has been given various names, such as "Sequard Fluid" and "Spermine," etc., but the registered and generally recognised name of Professor Brown-Sequard's discovery is "Sequarine"—a name derived from that of the discover himself, thus: Sequar—ine.

Since the general nature of the preparation is thus indicated, it is not altogether a "secret" remedy; but from the way in which it is advertised to the public, and the attempt to identify Brown-Séquard's orchitic fluid with the preparation supplied by this particular firm under a registered trade-name, it is fairly to be classed among nostrums.

The following is an extract from a newspaper advertisement:

Nature and Action of the Serum.

According to leading physicians the nature of Sequarine and the manner of action on the human organism in curing disease may be briefly summarized as follows:

Within every animal body there exists a "power of disease resistance," the principle of "Natural immunity"; this power resists the entrance of any disease into the body, and if it is of normal strength readily repels the disease even after it has gained entrance. In treating disease doctors are aided greatly by the principle of "natural immunity." The homœopaths rely on it almost entirely—and in a great many instances drugs get the credit for a cure when vital resistance has really effected it. The greatest scientists have always been baffled in their endeavours to discover the element or force which is the basis of this peculiar power. In his search for this element Professor Brown-Sequard discovered that there exists in the blood infinitesimal quantities of a fluid which subsequently proved to be the *basis of the power of natural immunity from disease.*

This fluid is the serum which has been named Sequarine in his honour.

What Sequarine Cures.

Sequarine is a cure for any ailment or weakness brought about by lack of nerve power or an accumulation of impurities in any part of the body.

The attempt to secure the prestige of the name of the late Dr. Brown-Séquard, without stating precisely that he was in any way responsible for the article now sold as Sequarine, is very obvious in a circular letter sent with the pamphlet referred to above, from which the following is an extract:

Since the introduction of Sequarine into England an ever-increasing number of sufferers have taken this treatment with remarkable success. The name of Dr. Brown-Sequard, L.L.D. (Cambridge), Fellow of the Royal Society and Fellow of the Royal College of Physicians (London), is a sufficient guarantee of its efficacy.

The directions on the label are:

Dose.—Adults, 20–30 drops; children, 5–15 drops in half-a-glass of water (soda-water or water which has been previously boiled preferred).

To be taken three times daily, half-an-hour before meals.

The liquid contained 35.8 per cent. by volume of alcohol, and a sufficient trace of oil of peppermint to give a flavour; on evaporation it left 1.9 per cent. of solid residue, of which 0.6 was ash—principally sodium and potassium phosphates. The nitrogen present was 0.22 per cent., equivalent to 1.4 per cent. of protein, but a small portion of it was present as ammonia, perhaps formed by decomposition of nitrogenous organic matter. The liquid was thus shown to be of the nature of an animal extract, with alcohol; definite constituents could not, of course, be isolated.

COCAPHOS.

This preparation is supplied by Gavin and Co., London. A box priced 4s. 6d. contained 94 tablets.

The following extracts are from an advertisement in a magazine:

Gavin's "Cocaphos" Puts New Life Into You. . . . You cannot do your work if you are in a nervous state; the worry and stress of modern life tells on the best of constitutions. Many fly to stimulants and find temporary relief, but as there is always a reaction, they find it necessary to continue taking them, and thus a bad habit is formed. When your feel run down and need energy and go the finest thing to take to brace you up and allow you to make the most of your opportunities, to remove that tired feeling, and to build up your nervous system is "COCAPHOS." This is composed of the finest ingredients for the purpose, acknowledged by the Medical Profession to be a fine recuperative tonic.

The dose is given on the label as "One tablet after each meal."

The tablets were sugar-coated, and coloured red externally; after removal of the coating the average weight was 3.9 grains. Analysis showed the presence of:

			In one tablet.
Iron hypophosphite ...	20	per cent. ...	0.78 grain.
Quinine sulphate ...	2.8	,, ...	0.10 ,,
Extract (probably damiana)	about 50	,, ...	2 grains
Sugar			
Talc	11	,,	

The extract agreed in characters and tests with extract of damiana; it was not possible to determine exactly how much was present. The name of the article appears to imply that a preparation of coca is present; no evidence was obtained of any, but a small proportion of extract of coca, if present, could not be identified in presence of the extract of damiana.

The estimated cost of ingredients for 94 tablets is 8¼d. The most costly ingredient is the extract of damiana, which is also the least certain in quantity; probably the figure given is a liberal estimate.

DAMAROIDS.

The tablets sold under the name "Damaroids" are supplied by Hygienic Stores, Limited, London, at 2s. 9d. and 4s. 6d. per box. A 2s. 9d. box contained 36 tablets.

"Damaroids" are thus described in an advertisement:

They are a Safe and Sure Cure of General Weakness, Physical Decay, and Loss of Nerve Power, Varicocele, etc., etc. They are a Unique and Wonderful Specific for ment Effectually Restore Lost Vitality and Stamina, counterac. result of late hours, etc. "Damaroids" is The True Nervo-Spinal Tonic, the Safest and most effective medicine yet introduced for nervous and all exhausting diseases.

They have cured thousands of cases—and they Do cure.

On the label they are described as:

A Safe and Sure Remedy for General Weakness, Spinal Exhaustion, Neurasthenia, Physical Decay, and Loss of Nerve Power.

Directions:—One to be swallowed three times a day, after meals.

The tablets were sugar-coated and coloured red externally; after removal of the coating they had an average weight of 3.9 grains. They exactly resembled the tablets just described as "Cocaphos," and showed the same com-

position, with some difference in the proportions of the ingredients. The figures arrived at are:

		In one tablet.
Iron hypophosphite ...	14.2 per cent. ...	0.55 grain.
Quinine sulphate ...	3.4 ,, ...	0.13 ,,
Extract (probably damiana)	about 50 ,, ...	2 grains.
Sugar		
Talc	16 ,,	

The same remarks apply here as in the preceding case, and the cost would be approximately the same.

(To be continued.)

Nova et Vetera.

THE HYGIENE OF THE FRENCH FOREIGN LEGION.

THE French Foreign Legion has been much before the world, having been often described both here and on the Continent. To us it is chiefly known from popular romances, such as Ouida's *Under Two Flags*, and from breezy descriptions such as those by Patrick Le Poer and Mr. Monington. It has been left to a German, Herr Erwin Rosen, of Hamburg, to describe the Legion in somewhat lurid colours, which, if not too thickly laid, tend to the discredit of foreign service under the French Republic. Herr Rosen, who has served his time in the German army and who has been successively a student in his own country, an American rough-rider, and a journalist in both the old and the new worlds, writes with great picturesqueness and minute attention to detail, but always, we cannot help suspecting, from the point of view of a Teuton anxious to pick holes in things Gallic if this can be done with a semblance of impartiality. We must therefore take into account this Teutonic point of view in considering *In the Foreign Legion*, the work by Herr Rosen published not long ago by Messrs. Duckworth. The author presupposes that the Legionaries are mainly Germans, but here he, perhaps purposely, forgets that as lately as fifteen years ago, according to the careful statistics of De Beauvoir, 45 per cent. of the men were German only in name and really French in heart. They were, in fact, Alsatians, who, for various reasons, but always at great personal risk, had escaped from the loathed yoke of the Prussian régime in the lost provinces into what has often proved slavery under France.

There is nothing to show that the percentage of Alsatians in the Foreign Legion has decreased since 1895. We are indeed justified in viewing the Legion as *par excellence* the battalion of the lost provinces. And, if this be so, the rigours inflicted by the French authorities on the representatives of a people so faithful of old to the French, so sturdy in her service from the days of Kleber to 1870, and still so affectionately mindful of her sunny rule, become tenfold more graceless and sinister. Granted that the Legion is mainly Teutonic in the sense of being Alsatian, its history since the Franco-German war becomes one of the most poignantly mocking episodes in the martyrdom of small nationalities.

We insist on this fact of nationality in writing of the Legion's hygiene in order that the reader may bear clearly in mind the intensity of suffering, moral as well as physical, which certain Legionaries may at any time be compelled to bear. Public opinion both in and out of France generally regards the Legionaries as wastrels, the scum of the earth, for whom nothing in the way of treatment and discipline can be too bad. Herr Erwin Rosen, however, is at pains to show that the Legion is not wholly made up of blackguards. He believes it to be in great part recruited from a floating population of German tramps adrift in a state of semi-starvation on the French roads. Hunger is the great recruiting sergeant of the Legion, according to this German observer. But, as we have partly shown, a pathetic and enduring love of France is with many at least as strong a motive as mere physical want.

It would be curious to have an account of the Legion from an Alsatian Gallophil—one such as Jean Oberlé, the hero of René Bazin's famous romance. Let us imagine that such an exile—not one like Herr Rosen—had joined the Foreign Legion in Algeria some five years ago, having fled from the German army at the risk of his life, and from a personal *impasse* of German manufacture that has completely wrecked his career as a man, lover, and citizen. He reaches Belfort over the Vosges frontier (readers of *Les Oberlés* will remember the graphic account of the escape of Jean), and "signs on" for five years in the foreign service of the French Republic. Once recruited, he is passed through a series of insanitary barracks and transports via Marseilles to Algeria and to Oran, whence he eventually is drafted to the head quarters of the Legion at Sidi-bel-Abbès. Here his life of hardship begins. We now follow Herr Rosen's description.

The Foreign Legionaries' day commences between 5 and 6 o'clock in the morning, when coffee, excellent of its kind, but apparently no food, is served to the men in barracks. After some sort of washing process the recruits fall in in the barrack yard within half an hour. At 6 o'clock they are marched off to drill. This is of the most exacting order, and seems designed to eliminate the unfit at the earliest date possible. The *pas gymnastique* plays a great part in the early morning evolutions. It is a quick double, and is kept up for long periods, during which the men must manage to run like athletes and gain their "second winds." This, according to our author, is the ruin of many lungs.

Under the African sun, which is blazing at an early hour, clothes are soon soaked with perspiration. At 11 a.m. only are the tired squads marched back to barracks. In the early days of his training the soldier throws himself on his bed in a state of exhaustion, but his rest lasts for a few minutes only. The first meal of the day, consisting of bread soup, boiled together with potatoes and vegetables and a small piece of meat, is partaken of shortly after 11 o'clock. All the afternoon the recruits are kept hard at it—as far as possible in the shade, it must be admitted—receiving instruction in drill or in evolutions, or in *le boxe*, till 5 p.m., when there is a second *soupe* precisely similar to the 11 o'clock meal. Good red wine, however, is also periodically served out with these meals, and at other times the *légionnaire* is always ready to swallow as much as he can obtain of this. It is sold for four *sous* a bottle, and it must mitigate to some extent the monotony of the not too generous *gamelle*, as the French soldier's soup is called.

In time, of course, the recruit grows used to these surroundings, and surmounts what, after all, are not tremendous hardships to a man of Continental race, especially if he be of tough peasant origin. It is the forced marches which are the real torture as well as *raison d'être* of the Legion's life.

The author gives a vivid account of one such march. The bugle sounded *Aux armes* in the middle of the night. At once the sleeping Legionaries leapt out of bed, and there was an anticipatory uproar in barracks. Sergeants and corporals rushed from room to room shouting "*Aux armes*," and in an indescribably short space of time the soldiers were in the barrack yard ready to march *en tenue de campagne d'Afrique*. This African marching kit is perhaps the most burdensome in the world. The men carry everything requisite for cooking, camping, etc., piled high upon their backs.

Blank cartridges being served out on the occasion of this particular march, the "roaring and singing" of the Legionaries stopped as suddenly as they had begun. To their intense chagrin, the men realized that, instead of a brush with the Arabs, a *razzia*, they were in for a mere *marche militaire*, of which they had already had quite enough in a garrison where it is the custom, on many a torrid afternoon, to trot the men some twelve kilometres out and back again along the military roads branching in all directions out of Sidi-bel-Abbès. In this instance the *marche militaire*, or short manœuvre, was destined to extend over a distance of about four hundred miles!

A certain amount of licence is allowed to soldiers on the march in the French army. This was noticed in the days of Waterloo by Sir Walter Scott (*Letters of Paul*) and by Captain Marryat. Thus there was at first much talking and laughing on this night march; but gradually the voices died down, and jests and songs ceased, as the tremendous knapsacks began to press heavily and the gun straps cut into the shoulders of the men. After every ten kilometres the soldiers were allowed five minutes' rest, and the knowing ones would then lie down flat on

the tops of their burdens without stopping to unstrap anything.

"When the morning mists and the bitter cold of the dawn were followed by the hot, burning sun, we had accomplished a march of forty kilometres, and the time came when our legs refused to do any more. When the signal sounded for rest we fell down helpless, and when we started marching again it looked as if a crowd of invalids and old men were slowly wandering down the road. The worn-out legs revenged themselves for the hard usage they had received. During the halt the flow of blood was hemmed in the limbs. [This is Mr. Rosen's explanation of the well-known phenomenon of "pins and needles."] Standing on one's feet again, one felt a sharp, stinging pain in the soles. Every step was torture. For five minutes afterwards one crawled along as best one could, till one became once more an unfeeling automaton."

At 11 o'clock in the morning the regiment had marched fifty kilometres. They camped, were fed on tinned meat and macaroni, and slept the sleep of complete exhaustion. An hour after midnight the march was resumed. It was a march lasting eight days. Sometimes the day's task amounted to some twenty-three miles, but the next, the deficiency—for such it was—was made up by an addition of some ten kilometres to the distance covered. "The monotony of this march, and the physical strength and endurance it claimed of each of us, cannot be described." Herr Rosen, it should be borne in mind, had served his severe term of service in the German army, and had besides seen much rough work as a cowboy in America. He was not a weakling, and his description of hardships endured upon this march therefore deserves attention. As the desert was neared, the men were put upon a short supply of water, and each received daily two litres of dirty muddy stuff of which a half-litre had to be saved up for the morrow's *soupe*, that innutritive superstition of the Latin races. The man who drank up all his water was fined for his negligence by receiving a handful of raw rice in place of the usual rations of macaroni and tinned meat. Another brutal rule of the march is that, if you faint from exhaustion you are lashed to a pole protruding from a baggage-cart and are dragged along with your feet touching the ground. Like a good ex-Prussian soldier, Rosen admits that these are just rules. It would never do to run short of water on the verge of the desert, and a Franzawi left behind among Arabs is generally horribly mutilated and tortured to death by their women. The author tells a sufficiently gruesome story of a petty officer who one evening went for a short stroll out of camp, when his regiment was in the desert, and was found next day literally sliced to pieces by the Arab amazons, his dead hand still clasping the broken glass bracelet of one of his tormenters. General Négrier, the friend of the Legionaries, and himself a good Catholic and humane man, was so impressed with the danger of straggling or loitering behind when on the march that he gave the Legionary this watchword—"March or die."

When on this terrible march, Rosen, either from the effects of bad water, sudden contrasts of heat and cold, or from sheer exhaustion, began to suffer from cramps in the stomach, which recurred every few minutes, and left him doubled up and hardly able to crawl. He applied to the regimental surgeon for something to alleviate the pain; but this gentleman was probably overworked—at least it is charitable to put that construction on his conduct. "On the march there are no sick men!" he roared. Then, in allusion to Rosen's request for opium pills: "What do you know about opiates? To judge from your accent you are an Englishman. . . . All the same, if you're English, German, or Hottentot, I take you to be quite a common simulator. I shall give you a certificate of being *non-malade*."

A roar of "*Va-t'en*" ended the interview. Rosen was reported for shamming, and, before his commanding officer, broke through all restraints, and burst into the wildest invective against the Legion and all its works. The officer, much to his credit, took no notice of this, and only pointed out that a man could not expect much in the Foreign Legion, and that, at any rate in the French service, a private is not beaten by the non-commissioned officers as in Germany. Poor Rosen obtained his opium pills, but declares that: "To day it is a puzzle to me how I managed to march three hundred kilometres"—the remainder of his journey—"in the burning sun, and to stand the cold during the nights."

The march had been undertaken in order that the colonel of the regiment might show off his men in a short desert manœuvre, lasting a few hours only, before a rival. At the close of all, the marchers were crawling along in a fearful condition. Inflamed eyelids, severe bronchial troubles, bleeding and festering sores on the thighs, and open wounds on the feet, were apparent on every hand. "Surly, silent raging bitterness pictured in the hard lines of the face and in the tired eyes, we stamped onwards. The only words heard were curses." At night, in camp, the "*cafard*" of the Foreign Legion, "a near relative to tropical madness," would take possession of numbers of the men, strings of whom would dance round the campfires, roaring out a horrible song denouncing seriatim all their tortures and torturers. From motives of policy doubtless, these *cafard* maniacs were not taken seriously. Arms are not allowed in camp, and it was never difficult to capture the singers, and to tie them to pegs outside the guard-tent, there to cool themselves down before resuming the agony of the march at sunrise.

Much more might be quoted from Herr Rosen's surprising book. The Legionaries have been the pioneers of civilization in Algeria, making its fine military roads and performing other like labours. They are employed in every kind of office: they are engineers—scavengers. Our author gives some striking accounts of sanitary *corvée* duty in the prisons—in that of the Arabs, where he was employed in emptying pestilential cesspools, and in the fearfully overcrowded regimental lock-up. The punishments of the Legionaries partake, according to our author, of the nature of mediæval torture; and their vices, learnt in all climes, are innumerable as the sands of the sea, and are only conditioned by the smallness of their pay—five *centimes* per diem during the first three years of service.

The Legion is very large, but the numbers of its two regiments are not published. The whole subject of the Legion, indeed, would seem to be veiled in official obscurity. Yet its history is a proud one. Founded in 1831 as the African Auxiliaries, the Legion, during the eighty years of its existence, has figured with startling *éclat* in some forty-eight great actions, in all parts of the world, from Mexico to Tonquin. Latterly, as we know, it has fought obscurely, but with great bravery, in Morocco. It is its military glory, rather than its régime and hygiene, which doubtless still attracts recruits to its crowded ranks.

ALCOHOLISM IN ADULTS.

A MEMOIR recently issued from the Eugenics Laboratory, entitled *A Preliminary Study of Extreme Alcoholism in Adults*,[1] by Amy Barrington and Karl Pearson with the assistance of Dr. David Heron, is founded mainly on an analysis of the data contained in the six annual reports (1905 to 1910) of the Langho or Lancashire Inebriates' Reformatory. With the co-operation of Dr. F. A. Gill, the director, particulars were obtained as to the mental condition, physical state, and conduct of 207 female inebriates, and as to the age, number of convictions, religion and education of 333 female inebriates. Of the 333, however, 5 had to be omitted, as the entries with regard to them failed in one or more categories. The writers apologize for the slenderness of their data, and state that many of their conclusions are probabilities or suggestions rather than demonstrations. The conclusions, whatever be their value, are as follows:

1. If intensity of the alcoholic mania be measured by the number of convictions, there appears for constant age little relation between alcoholism and physical fitness.
2. There is a sensible relation between alcoholism and poor education and alcoholism and mental defect. We consider it probable . . . that the alcoholism is not due to the poor education, nor is it to any marked extent productive of the mental defect, but the want of will-power and self-control, associated with mental defectiveness, is itself the antecedent of the poor education and of the alcoholism.
3. The physically stronger, judged from religion (or race) the emotionally more excitable, and, judged from intelligence the more mentally defective, tend more to alcoholism, and give, when sober in the reformatory, most trouble.

[1] Memoir XIV. London: Dulau and Co. 1910. 4s.

4. If alcoholism is the product of association of emotionally excitable, physically strong natures with want of mental balance, we see that it is rather the hereditary than the environmental factor to which in alcoholism, as in criminality and insanity, the first attention must be paid. It is a study of stock, not of environment, which must give us the real clue to the treatment of alcoholism.

Whether we suppose the 63 per cent. of mentally defective persons among these inebriates to be the source or the product of the alcoholism, one fact is clear—the reformatory does not restore them to mental efficiency, nor in the great bulk of cases give them the power to control to social advantage their own lives.

The statement that 63 per cent. of inebriate women in the reformatory failed to reach the normal standard of intelligence seems to be founded on the experience of Langho, but appears to be confirmed by Dr. Branthwaite's statement in his report for 1908 that only 36.45 per cent. of 3,032 inebriates were of average mental capacity. The authors of the memoir conclude "that the problem of the inebriate women, the problem of the lowest type of prostitute, and the problem of the habitual criminal are closely one with the treatment of the mentally defective," and therefore maintain that "the segregation of the mentally defective child of both sexes is the first step in the effective treatment of both alcoholism and criminality."

A reflection which will no doubt occur to those readers who have followed the correspondence in these columns between Dr. Mary Sturge and Sir Victor Horsley on the one hand and Professor Karl Pearson on the other will be that there is some contradiction between the conclusions reached in this latest memoir and those made in the earlier memoir to which the correspondence refers. The authors feel this, for they write as follows:

> Should the reader of this memoir have read a previous memoir[2] on alcoholism issued by the Galton Laboratory, he may at first sight be puzzled by an apparent contradiction. In that case no close relation was found between mental defectiveness in the children and alcoholism in the parents. Here a close relationship is found between mental defect and alcoholism, and on the basis of it segregation of the mentally defectives advocated because of the hereditary character of such defect. We can only state results as they flow from our data, and then seek an explanation of any apparent discrepancy. In the Edinburgh and Manchester samples we found no excesses of mental defect in the children of the alcoholic; in the Langho data we find excess of mental defect in the alcoholists themselves, and anticipate it in their offspring. What is the probable explanation of this apparent discrepancy? We think there is little doubt of its true explanation. The mentally defective become extreme alcoholists, inebriates in constant conflict with the police, because the mental defect is antecedent to their alcoholism. But because the bulk of the mentally defective become criminal or alcoholic, it does not follow that every alcoholist is mentally defective, and will breed mentally defective children. The extreme female cases of alcoholism which lead largely to the reformatory are to a great extent the product of mental defect, but these cases form something under one-thousandth of the female population, and have a large contingent of non-childbearing women. On the other hand, intemperate mothers form 15 per cent. of our working-class population sample in Manchester and 36 per cent. in Edinburgh. The 0.1 per cent. of convicted inebriates does not affect returns based on these large percentages of those that drink without being convicted inebriates. In other words, there are other sources of a taste for alcohol beside mental defect; and as we have seen in the case of Edinburgh, the alcoholic parents, as a whole, follow the trades requiring greater intelligence and greater strength. It is one of the difficulties of much temperance reform that, finding mental defect associated with and probably the causes of extreme case of alcoholism, and in such cases undoubtedly followed by mental defect in the children, the supporters of the movement have asserted that parental alcoholism leads to mentally defective children, whereas the alcoholism is probably as much the product of the mental defect in these extreme cases as the mentally defective children are. We do not propose the segregation of all extreme cases of alcoholism, but the segregation of the mentally defectives, as they form one, if not the principal, source of such extreme cases. Further, we think it unreasonable that facts relating to perhaps 0.1 per cent. of convicted inebriates should be stated as applying to the whole alcohol-using section of the community.
>
> As to the remedy for extreme cases which we propose, only those who make a fetish of personal liberty—in this case largely the liberty to annoy, if not to demoralize their neighbours—can take objection to Dr. Gill's conclusion in his last report: "That public decency and morality, economy, humanity, and many other reasons call for the segregation of inebriates" (Report, 1909). But this segregation on any large scale is, we hold, only a temporary necessity. With the segregation of mentally defective children the number of certified inebriates to be segregated would grow less and less year by year, and those left having more normal intelligence would be those who were more susceptible of the permanent reform which it was originally hoped would flow in the bulk of cases from a temporary seclusion.

[2] *A First Study of the Influence of Parental Alcoholism on the Physique and Ability of the Offspring.* Second edition. 1910. Dulau and Co.

SCIENCE NOTES.

One of the many points as to which those interested in the eradication of sleeping sickness are concerned is a knowledge of the natural enemies of the tsetse flies, and of *Glossina palpalis* in particular. During its varied life-history a fly is exposed to many dangers and not a few enemies, but so curiously is the balance of Nature adjusted that it is unsafe to speculate from general grounds on what will be the case in any particular instance. Continued and accurate observation is the only sure guide to the actual facts. Of flies in general there are enemies in plenty amongst the higher animals, but there are some even amongst its own kind. Many flies have to reckon with the formidable attacks of wasps, and it is interesting to know that the tsetse fly numbers a wasp amongst its enemies. The observation was first made a year ago by Picard, and has since been confirmed by Roubaud,[1] who was fortunate enough to witness a species of *Bembex* attacking *Glossina longipalpis*. He assured himself of the fact by confining a wasp and a fly together in a bottle. The wasp stung the fly, rendering it powerless, but not killing it, and then proceeded to carry it off firmly clasped by its two hind pairs of legs. This habit of rendering their prey helpless without actually killing it, and then carrying it off to provision their nest, is well known amongst wasps, and has been remarked on by many observers.

At a recent meeting of the Royal Society several papers dealing with trypanosomiasis were read. The first of these, by Plimmer, Fry, and Ranken, was concerned with the experimental treatment. The opinion that antimony is a more powerful trypanocide than arsenic was repeated, but mention was also made of the unpleasant effects following the injection of salts of antimony. These have been obviated to a large extent by the use of the metal itself in a very finely divided state. The absorption of the metal is much slower than that of its salts, but, on the other hand, elimination is also more gradual, so that the effect lasts longer. No case of plugging of the capillaries, such as might have been expected on injection of the metal, has been noted in any of the numerous animals experimented with. The second communication, by Stephens and Fantham, contains a description of what is presumably a new human trypanosome (*T. rhodesiense*) causing sleeping sickness. The form differs morphologically from the *T. gambiense* in having, in a certain number of specimens, the nucleus at the posterior pole near the blepharoblast, in some cases posterior to it. The patient from whom this strain was obtained came from Rhodesia; he had never been in the *Glossina palpalis* areas, although he had been in places infested with *G. morsitans* and *G. fusca*. Professor Mott also read a paper on the result of examination of the central nervous system in a case of cured trypanosomiasis. Trypanosomes were found in the patient's blood, and he was treated with inorganic arsenic for eighteen months. Three years later, and again a year later, no trypanosomes were found on examination of the blood. Two months before the man died another examination was made, again with negative result. He eventually died of pneumonia. *Post mortem* the brain was found normal in appearance, and there was no excess of fluid. Histologically no trace could be found of the meningeal and perivascular infiltration characteristic of sleeping sickness. On this account Professor Mott considers that the case proves that human trypanosomiasis is curable, but it does not prove that sleeping sickness is curable, for he contends that the diagnosis "sleeping sickness" can only be made when there is a proof that the trypanosomes have invaded the subarachnoid space. Further papers on trypanosome diseases of domestic animals were read by Bruce, Bateman, Hamerton, and Mackie.

[1] *Comptes rendus Acad. Sci.*, August 22nd, 1910.

REPORT OF THE CHIEF REGISTRAR OF FRIENDLY SOCIETIES FOR 1909.

THE annual report of the Chief Registrar of Friendly Societies for the year ending December 31st, 1909, which has just been issued, contains a large amount of detail about not only the friendly societies proper, but the industrial and provident societies, trades unions, workmen's compensation schemes, and all the other provident associations that have to be registered under the Chief Registrar.

After a preface in which reference is made to the great interest taken in the friendly societies by His Majesty King Edward and His present Majesty King George, the report mentions the principal legislative and legal events affecting friendly societies during the year. The Assurance Companies Act, 1909, and the Act authorizing certain modifications in the Workmen's Compensation Act in its application to French citizens resident in England are described, and an important provision of the Housing and Town Planning Act is mentioned; it enables county councils to assist or promote the formation on a co-operative basis of societies having for their object, or one of their objects, the erection or improvement of dwellings for the working classes.

Numerous law cases affecting the Chief Registrar's office are referred to, perhaps the most important being the decision of the House of Lords in the case of Osborne *v.* The Amalgamated Society of Railway Servants, which laid it down that a rule which purports to confer on any trade union the power to levy contributions from members for the purpose of securing parliamentary representation is *ultra vires*. It is stated that previous to this decision it had been the practice of the Chief Registrar's office to allow provision for this to be made in the rules of trade unions "as a means for carrying out the objects and not as an object in itself." Another "case of notoriety during the year was that of the One and All Sickness and Accident Assurance Association, a new body, not registered, which in a short time obtained a large membership, one of the inducements being a contribution which was afterwards admitted to be 50 per cent. below the minimum required for the benefits given."

Statistics.

The total number of new registrations during the year was 712, comprising 92 friendly societies, 281 branches of friendly societies, 143 industrial and provident societies, 19 trades unions, and 14 schemes under the Workmen's Compensation Act, the remainder being various associations, such as working men's clubs, loan societies, savings banks, building societies, etc. During the year 140 ordinary friendly societies and 1 society with branches were dissolved—50 of them after an existence of fifty years or more, and some after an existence of over 100 years. Annual returns for 1908 were received from 6,079 friendly societies, 143 friendly society orders, 18,005 branches of orders, and 53 collecting societies. The number of branches of orders at the end of 1909 was 18,332. Over 100 societies or branches were prosecuted under the Friendly Society Act, mostly for failure to send in the annual returns or the quinquennial valuations which are required. The 92 new friendly societies registered during the year comprised 36 dividing societies, 14 collecting societies, 8 juvenile societies, 1 society with branches, and 32 other societies, but not the least hint is given as to how many of these societies intend to provide medical attendance as one of their benefits. In addition to the new societies, 269 new branches of orders were registered, as against 299 in the previous year. The activity of the two Temperance Orders—the Rechabites and the Sons of Temperance—was again specially marked, as it was in the previous year.

The totals given in the accompanying table show the enormous extent of the friendly society movement, the figures being for Great Britain and Ireland at December 31st, 1908.

	Number of Members.	Funds.
		£
Ordinary friendly societies	3,473,712	20,009,658
Societies having branches	2,704,404	26,378,572
Medical societies...	334,653	71,848
Collecting friendly societies	6,726,747	8,471,012
Shop clubs	12,123	1,395
Benevolent societies	30,018	350,062
Working men's clubs	274,353	391,440
Specially authorized societies	72,516	800,310
Trade unions	1,971,238	5,996,032
Schemes under the Workmen's Compensation Act	65,277	86,931
Savings banks (including the Post Office savings banks)	12,869,765	249,760,592

On comparing these figures with the preceding year, it appears that in the ordinary friendly societies there has been a decrease of about 57,000 members, in the societies with branches a decrease of 6,000, in the trade unions a decrease of over 2,000, while the collecting societies show a decrease of 2,283,000 members. The last figure is accounted for mainly by the fact that the Royal London Friendly Society, with a membership of nearly 2½ millions, was converted into a company during the year, and is thus no longer included as a collecting society. By far the two largest of the remaining collecting societies are the Royal Liver, with 2,443,000, and the Liverpool Victoria Legal Friendly Society, with 2,351,000 members. The collecting societies, though only few in number—41 in London, 7 in Scotland, and 2 in Ireland—have more members than all the ordinary friendly societies and societies with branches put together. Their income is approaching £3,000,000 a year, though their accumulated funds are far less in proportion than the funds of the other societies. The average annual contribution in a collecting society is 8s. 1½d. a member. The benefits in the collecting societies are almost entirely confined to "sums at death," which account for 44.4 per cent. of the expenditure, sickness pay only being 0.8 per cent., while management expenses are almost 50 per cent. of the expenditure. And yet, in spite of the very large amount spent on management, a large percentage of the societies show a deficiency in the management fund, such deficiencies having often been met by improperly applying the benefit funds towards management expenses. Few, if any, of the collecting societies provide medical attendance directly, though subsidiary clubs for the purpose are often formed by voluntary arrangements among the members in particular districts. The Chief Registrar, however, has no account of such subsidiary arrangements.

Schemes under the Workmen's Compensation Act.

During the year fourteen certificates were granted for schemes under the Workmen's Compensation Act adopted by the workmen and employers connected with the Associated Employers of the Bristol Channel Ports. These schemes provide compensation for injury, with sick pay of £1 a week for twenty-six weeks, and special provision for loss of arms, legs, and eyes, and in case of death from accident arising out of, and, in the course of, the employment, there is a liberal allowance for surviving dependants. The contributions of the workmen are a penny a week, while the employers contribute not less than 12s. 6d. a year per £100 gross wages paid. A considerable number of these schemes are now in operation, many of them providing free medical attendance, and in one case it is noted that a sum of £53 had been allocated "for the purchase of recommendations to medical charities for the benefit of the members of the fund." In the aggregate the schemes had been adopted by 66,952 workmen out of 71,356, who contributed £15,370, an average of 4s. 7d. each per year, while the employers contributed £33,359. These schemes are of undoubted advantage to the men, for, from eleven returns it appears that while the men would have been entitled under the Act to receive £2,935, they actually received £3,632. In the previous year, too, the amount actually received by the men was about 15 per cent. over what would have been the maximum under the Act, in addition to the saving of the trouble and cost of litigation. It is not stated how or on what terms medical attendance

is provided, but in the case of the Bristol Channel Ports the schemes are administed by the Bristol Channel Ports Mutual Friendly Society.

Proceedings under Trade Union Acts.

Nineteen trade unions were registered in England during 1909, three being unions of employers. The number of members of the registered trade unions was 1,971,238, which is 2,322 less than in the previous year. Their income was £3,295,941, which is £428,545 less than their expenditure. The total number of unions was 634, but the 48 largest unions contain about two-thirds of the total members. The chief benefits are: Out of work pay, which accounts for 29 per cent. of the expenditure; dispute pay, 16 per cent.; sickness pay, 12.6 per cent.; superannuation, 9.1 per cent.; sums at death, 3 per cent.; accident pay, 1.9 per cent.; and other benefits, 6 per cent.; while management and other expenditure accounts for about 21 per cent. Many of the largest unions make provision in their rules for all these benefits, though others confine themselves to "trade benefits." In some cases medical attendance is included, though it is more usual for the members in particular districts to form subsidiary clubs for medical attendance. Here again no information is available from the Chief Registrar's report.

Finances of the Friendly Societies.

In the present report, as in several previous reports, some very strong remarks are made by the Chief Registrar as to the auditing of the accounts of the friendly societies. There were 354 public auditors appointed for the year, but less than half of these were actually employed by the societies. This is regarded by the Chief Registrar as a matter for regret, as he considers that the audit of many of the societies is often very imperfect. It is, in fact, often conducted by members of the societies themselves, who have no qualifications for such work. According to the report for 1904 over 50 per cent. of the auditors were artisans and labourers, while in the last year's report it is stated that in 85 cases, some among the branches of the most important orders, though the returns purported to be signed by the appointed auditors, the signatures were found to be fictitious.

An important appendix to the report deals with the financial position of the friendly societies, as shown by the valuation returns received from 472 friendly, collecting, and specially authorized societies, with a total membership of 306,142. Of these societies, 317 show a total deficiency of £620,803, while 155 have a surplus of £182,981, leaving a net deficiency of £437,822. In other words, 67 per cent. of these societies show deficiencies, and 33 per cent. show a surplus, and, taken collectively, the societies were at the date of valuation in a position to pay only 18s. 5d. in the £ of the estimated future liabilities. As in the previous year, in the majority of cases of increased deficiencies there appears to have been no attempt made to reduce the deficiencies, though in cases of decreased deficiencies there have been amended rates of contributions and benefits and stricter supervision of sickness claims.

Sickness Experience in Friendly Societies.

In 320 quinquennial valuations the actual sickness occurring during the five years has been compared with that expected according to the standard tables employed, and it is shown that the actual cost for sick pay has been £18,933 more than the anticipated cost—that is, 6.45 per cent. more than was expected from the tables. Taking the societies by counties, we find enormous variations in this respect. For instance, in Monmouthshire the societies exceeded the expected sickness pay by 75.7 per cent., in Glamorgan by 61.46 per cent., and in London by 15.8 per cent. On the other hand, a number of counties had less sickness than was expected by amounts varying from 3 per cent. to 46 per cent. The collecting societies taken altogether exceeded the expected sickness by 34.27 per cent. As all these returns are based on five years' aggregates, they can hardly have been affected by passing epidemics, and it is evident that a very considerable margin for contingencies needs to be left whatever expectancy tables are adopted. In a new society with an age limit for admission there may be for some years a very low sickness-rate, but as the society grows older, the proportion of elderly members increases, which raises the sickness rate. Moreover, the lowering of the death-rate throughout the country generally has, of course, the effect of leaving more members in the society who attain to that period of life when prolonged sickness causes a heavy drain on the funds of the society, and the advantage gained by reduced sickness and mortality during early and middle ages is more than counterbalanced by the increased provision needed for sickness in old age. Such is the opinion expressed in the report. It is probable, too, that the Workmen's Compensation Act has had some indirect effect, possibly by bringing more into evidence the slighter cases of sickness which formerly were passed over unnoticed. But whatever explanation is accepted, the rise of the sickness-rate experience of the societies is almost universal. As an example, in the Ancient Order of Foresters the sickness experience has risen from 12.75 days' sickness per member per year in 1899 to 17.05 days in 1909—that is, an increase of about 33 per cent. in ten years. It is evident from all this that the tendency to a gradual rise in the sickness experience will need the most careful consideration and liberal allowance in calculating the amount to be devoted to sick pay and medical attendance under State sickness insurance.

Medical Attendance.

It is a matter for the greatest regret that the Chief Registrar seems to be unable to give any statistics as to the provision of medical attendance by the various societies. Such statistics are given to a very valuable extent by the friendly societies of Australia; but in England, even in the case of the large friendly societies which are known to provide medical attendance as one of their benefits, no particulars of any kind are given, and the custom of including the cost of medical attendance as an item of management expenses makes it quite impossible to arrive at any figures, though they would have been of the greatest value in making arrangements for State sickness insurance. As already noted, the report states that in the case of some societies, funds which ought to have been devoted to certain benefits have been drawn on for management expenses. It is of course right that each fund should be called on for its proper proportion of such expenses, but, judging from what has certainly happened in not a few unregistered societies, it is not at all unlikely that in some registered societies subscriptions which have been paid professedly for medical attendance may have been used for management expenses to a far greater extent than could be justified. Of course the sufferers in such cases would not be the members so much as the medical officers. It is also noted that in a number of cases "the members have been premature in the distribution of cash bonuses or increase of benefits, with the result that a position of solvency has become one of insolvency." Here, again, there can be little doubt that there is great danger that the medical officers would suffer from a misapplication of the medical fund. And even in the opposite cases where deficiencies have been turned into surpluses by a reduction of excessive benefits, though the greatest sympathy may be expressed with the desire of such societies to put themselves on a sound financial basis, the medical profession has a right to be assured that no society should build up a surplus at the expense of its medical officers. It is, of course, quite natural that an attempt should be made to give the greatest possible benefits for the lowest possible contributions, but it would seem as if at any rate the poorer working classes are unable to pay such a subscription as will provide benefits sufficient to meet their needs during sickness; and so long as this is the case, or, in other words, until assistance is obtained from employers or the State, or both, there will be a temptation to exploit funds that ought to be devoted to paying a reasonable remuneration for medical attendance.

THE International Congress of French-speaking Doctors will be held in Paris on April 18th, 19th, and 20th, 1911. M. Béclère is chairman of the Organizing Committee. The subjects proposed for discussion are the following: Sciatica, lupus vulgaris, hypertrophy of the prostate, bleeding at the menopause, muco-membranous entero-colitis, painful flat-foot, syringomyelia, and uterine fibroma.

LITERARY NOTES.

We learn from the *Revue Médicale de la Suisse Romande* that the "Swiss Society of Popular Traditions" has decided to organize a widespread investigation as to everything relating to popular medicine in Latin Switzerland. For that purpose an organizing committee of doctors and linguists has been formed to draw up a detailed schedule of questions on the subject. This schedule, which has been drawn up with the greatest care, forms a twelve-page pamphlet, a copy of which has been sent to every doctor, chemist, and midwife throughout Latin Switzerland, as well as to all the correspondents of the glossary of the dialects and those districts. The president of the commission of inquiry is M. E. Tappolet, 5, Place de la Cathédrale, Bale, to whom all communications relative to the inquiry should be addressed.

A reprint of an interesting article by Dr. Major Greenwood, which appeared in the *Medical Magazine* for February last, has been published in pamphlet form, under the title of "A Novel View of the Origin of the Profession of Medicine and Surgery." It contains a new theory as to the beginnings of the medical profession in this country. According to the author, the modern general practitioner is not, as has been frequently asserted, the offspring of "a mixture of barber-surgeons and apothecaries," but a lineal descendant of the *medici* who accompanied the Roman army to Britain, and settled here to practise their art throughout the centuries that elapsed between the invasion of Caesar and the final departure of the Roman legions from these shores. It is well known that a considerable number of Romans remained in Britain after the withdrawal of the legions, and it is, in the opinion of Dr. Major Greenwood, more than probable that there were doctors amongst them who "may have survived the horrors and desolation of the Saxon conquest, and so continued to more settled times the nucleus of a profession of medicine." This belief is, in his opinion, supported by the following entry in the Domesday Book:

> "Nigel-Medicus—5 Hydes of land in demeenes in the hundred of Scipe,"

which obviously refers to a medical practitioner, and would seem to prove that

> "in the great national register of the landowners of the 11th century, a class known as *medici* is shewn to have existed."

This class was entirely distinct from that of the apothecaries, barber-surgeons, and "the religious persons" who frequently practised medicine in the Middle Ages, and existed at a period when England possessed neither medical universities nor faculties. Therefore the author believes its members to have been "descended lineally from the *medici* of the Roman era." Moreover, the united guild of Surgeons and Physicians, which was formed in London in the year 1423, was composed of men about whose origin very little is known save that they were neither apothecaries nor barbers; and Dr. Major Greenwood thinks it "most likely that Chaucer was referring to them under the appellation of "Doctour of Physik," and that he meant the latter to be the type of the medical practitioner of his day." He cannot help thinking that this "Doctour of Physik" was the professional descendant of the "medicus Nigel" mentioned in the Domesday Book.

It may be (he says) that the old *medicus* was a general practitioner—that is, both a surgeon and physician, and the ancestor of both the physicians and surgeons in this country, who were neither apothecaries nor barber-surgeons. This would partly explain Chaucer's silence as to surgery—that is, he may have considered his "Doctour of Physik" the representative of both, as he says:

> "In all the world ne was ther non him lyk
> To speke of Physik, or of Surgerye."

Another reason for believing in the Roman descent of the medical profession in England—a belief which, Major Greenwood admits, "may seem to many far-fetched and fantastical"—is the rule of the Royal College of Physicians of London, which forbids Fellows of the College to sue for fees. A similar rule applies to barristers, and, since there is little doubt that the English lawyer is the descendant of the Roman "jurisperiti," Dr. Major Greenwood is inclined to consider this custom as being another proof of the Roman origin of English medicine, an origin "which largely modelled its destiny, and gave it a far higher social position than our profession could ever have attained had it simply sprung from a mere development of trading guilds."

The story of Sir Richard Owen and the negro's head—known as Owen's ghost story—has been told in different ways. Mr. Lionel A. Tollemache, in his *Old and Odd Memories*, gives what he claims to be the authorized version. He says Owen related it to him some forty years ago, and its accuracy is attested by "a very distinguished friend," who heard it more than once from the lips of the great naturalist. It is as follows: When a young man, Owen was surgeon to the jail at Lancaster, which stands at the top of a steep hill. The road through the town that led to it rose in long paved steps, with low houses on either side. He had become an ardent student of Lawrence, whose works had for the first time shown to him the relations of comparative anatomy; and, among other things, made it clear that the negro and the European were structurally alike, brain and all. There was a negro in the jail dying of consumption, and Owen craved to obtain possession of his head, after his death, for leisurely dissection. At last the man died. Owen told the porter in charge that he would come in the evening to make the autopsy, and the coffin was not to be closed yet; and in the evening he came, wrapped in a long cloak, and with a bag under his arm such as lawyers carry briefs in. His heart palpitated at the thought of what he was going to do; for there was a great outcry against resurrection-men. He went into the jail and up to the mortuary, and then and there cut off the negro's head as he lay in his coffin, and put it into his bag; then he placed the lid on the coffin and screwed it down with the implement left in readiness. Then he descended the stairs, and passing out, told the porter at the gate that he had examined the negro, and the coffin was all ready for burial. The man said, "All right," and Owen went out, with the bag containing the head under his large cloak. The frost was severe, and the paving-stones were slippery. It was about nine at night; the streets were deserted, and the lights of the houses were mostly in the upper rooms, showing that the people were going to bed. In front of him was a long stretch of straight road down the steep hill, then it curved out of sight; but just at the curve a single door stood open, and the fire and candle-light shone cheerfully through. At this moment Owen slipped and fell head-foremost towards the descent. He wildly grasped the bag as he fell, but somehow grasped it below the head instead of above it. The consequence was that out went the head. As Owen lay sprawling, and before he could get to his feet again, the head was in full roll down the hill, going faster and faster, and bumping down each successive step with increasing speed. Owen rushed wildly after it, but was many yards behind. On went the head and bounded right through an open door. It was a matter of life and death to Owen's career to escape detection in the "sacrilege" he had committed; so he rushed into the house after it with ghastly face and his long cloak streaming in the wind. He had just time to notice a family gathering, who were yelling with terror; and there was the head on the floor! He plunged in and seized it, and then rushed out as swiftly as he had rushed in, and got home as fast as he could, finding, to his infinite relief, that he was not followed. He dissected the head at leisure, but dared not go out of doors, and had not sufficient control of his voice to ask what people said. At length it came out that the house belonged to a woman whose husband had been engaged in the slave traffic, and was believed to be dead. The version she gave was that her own husband's head had rushed into the house for protection, but the devil, rushing in after, had seized it and borne it away to hell. To this graphic account Mr. Tollemache makes a slight addition. Owen told him that the woman confirmed her statement by saying, "If you doubt me, sir, look at the stain of blood on the floor." The explanation of the woman's myth was therefore, it is pointed out, strictly rationalistic, in the German sense of the word: her account was based on a real event misunderstood and misrepresented. Grote and others, Mr. Tollemache goes on to say, have contended that myths are often mere fictions, and that, when they contain a substratum of fact, the substratum is generally irrecoverable. This may be so; but, at any rate, the foregoing instance is an exception of a nature that would have rejoiced the hearts of certain rationalizing commentators on the Bible.

British Medical Journal.

SATURDAY, JANUARY 7TH, 1911.

THE NEW YEAR AND AN OLD PROBLEM.

LAST year at this season, when reviewing some of the events of 1909, it had to be recognized that the financial experience of the profession had not been satisfactory, owing, as was believed, to depression in trade, but the hope was expressed that the prospects for 1910 were in this respect better. Financial prophets, like other prophets, do not always speak with one voice, and they are not unanimous at the present time, but there appears to be little doubt that there has been a real improvement in trade in this country, and reasonable grounds for expecting that it will continue during the year which has just opened. As was observed last year, the medical profession is probably one of the first to feel the effects of bad trade, which has an immediate and serious effect on earnings, and still greater effect on actual takings. It probably feels an improvement later than some others, nevertheless it does feel it, and we believe that the profession may look forward with confidence to such an improvement in 1911.

The annual meeting last year, held in London after an interval of fifteen years, was very largely attended. It excited much interest, and was the means of producing much valuable scientific and clinical work. The fact that there were twenty-one Sections imposed upon the BRITISH MEDICAL JOURNAL a task of uncommon magnitude, but, by the strenuous efforts of those responsible for the work, the publication of the proceedings of all the Sections was completed in the issue of November 26th, 1910.

The next annual meeting will, as already announced, be held at Birmingham, and we are enabled this week to publish a list of Sections, together in most cases with the names of the Presidents and other officers who have been appointed to conduct them. The President-elect is Dr. Robert Saundby, Professor of Medicine in the University of Birmingham and Physician to the Birmingham General Hospital, whose name is well known to members of the Association as an active member, and, for the usual period, chairman of the Central Council. The address in Medicine will be delivered by Dr. Byrom Bramwell, of Edinburgh, and that in Surgery by Mr. Jordan Lloyd, Surgeon to the Queen's Hospital, Birmingham. The Sections number sixteen, and it will be observed that on this occasion there will be a joint Section of State Medicine and Industrial Diseases; the latter subject may be discussed with special advantage in a great manufacturing centre such as Birmingham. It will be observed that in the title of the Section of Therapeutics, Dietetics is formally included—a recognition of the increased interest which now attaches to this department of therapeutics and, we may add, personal hygiene.

Birmingham is not only a great industrial centre but its municipal administration has long been distinguished for its enterprise, and it is remarkable among the large cities of England for its situation, for many of its suburbs stand at an elevation which almost justifies them being considered health resorts. It is also within easy reach of beautiful country and of many interesting historical sites. Arrangements are being made to enable members attending the meeting to visit some of these places under particularly favourable auspices.

The year just passed has been an important one to the profession for many reasons, but mainly because it has had to consider the far-reaching effect which the recommendations contained in both the Majority and Minority reports of the Royal Commission on the Poor Laws and the proposal to institute State invalidity and sickness assurance may have upon its future both from the financial, scientific, and the social sides. It is satisfactory to find that though the serious importance of the matter is perhaps not yet fully appreciated by some of those engaged in consulting and specialist practice, it has engaged the attention of the general practitioners of the country. The correspondence columns of the JOURNAL have borne witness to the interest aroused, and the complex questions involved have been fully considered by the special Poor Law Committee of the British Medical Association. The report which this Committee, appointed by the Council to carry out the instructions of the last Representative Meeting, will present is, we understand, in a forward state, and will, it is hoped, shortly be issued for the consideration of the Divisions.

The *Times* of January 4th printed, in a manner which appears to show that our usually well-informed contemporary regarded the information it contains as authentic, an article "From a Correspondent,"[1] purporting to give the main outline of the scheme of State insurance for sickness and invalidity which the Chancellor of the Exchequer had drafted after private conferences with members of the committee of the National Conference representing the friendly societies formed on a permanent basis. The scheme, it is stated, has been framed with the intention, as far as possible, of making use of existing agencies and of working the compulsory national scheme through the present voluntary societies. The permanent societies so far consulted have at present a membership of over six millions and possess funds amounting to over £46,000,000, though their liabilities are slightly in excess of this amount. Mr. Lloyd George has undertaken to meet representatives of the dividing societies, of the deposit societies, and of companies providing either a general sickness insurance or an insurance for infectious diseases, and the scheme propounded is stated to be subject to any modification which may be considered desirable after the further conferences have taken place.

The main point in the scheme is stated to be the institution of compulsory insurance for sickness and invalidity for the whole of the working population of the country whose incomes are below the income tax level of £160 a year. The minimum amount of the insurance is to be 5s. a week, all insurance beyond this minimum being a purely voluntary insurance by the member with the friendly society. The minimum insurance will be guaranteed by the State, but the extra insurance will not be so guaranteed. It is proposed that the scheme should apply to all ages between 16 and 70, the latter being fixed because of the provision of old age pensions. The contributions

[1] An article which appears to be identical was published by the *Manchester Guardian* of the same date.

needed to provide the minimum insurance are to be calculated by Government actuaries, and the cost is to be met one half by the workmen and the remaining half in equal proportions by the employer and the State. The employer will pay his own and the workman's share of the contribution direct to the State, which, in the case of workmen already insured through an approved society, will pay over the amounts to the various societies. In the case of workmen not so insured—and they would probably constitute the majority—the employer would be required to deduct the amount necessary to cover the workmen's portion of the contribution on the payment of the wage, "and the man's name would be added to the list of one of the approved societies." This provision appears to be extremely vague, and to leave one of the greatest difficulties practically undealt with.

The scheme being compulsory and universal, so far as the working population is concerned, the risks of lives good and bad must be accepted, and it is pointed out that, so far as the lives of those who are unable to pass a medical examination are concerned, there are no data available, so that the amount of loading of the ordinary tables which will be necessary to meet this additional liability must be a matter of guesswork. This liability the State accepts in guaranteeing the minimum benefit.

The scheme, it is stated, provides for the establishment of a central administrative council, composed of representatives of the Government, friendly societies, and employers of labour, to deal with all questions which may arise under the working of the scheme.

With regard to medical insurance, the article states that it is outside the scope of the Government insurance scheme. "The reason," the article continues, "is not far to seek. If sickness insurance is to be compulsory for the whole of the workers whose earnings fall below £160 a year, and a medical insurance is also provided, then in many parts of the country the private medical practitioner will cease to exist. The present members of friendly societies will refuse to surrender the medical benefit, the number of persons who will provide for medical attendance by contract will be largely increased, and a long step will have been taken in the direction of a national medical service." Whether there has been some recent change of official views on this point we are not in a position to say, but the omission of medical attendance as one of the benefits to be provided seems to leave the problem as to more than one-half unsolved, and as to the remainder in very much the same position as it is to-day.

Life insurance, it is stated, is also outside the provisional scheme. This is in accordance with the following statement made by Mr. Lloyd George, with which the article concludes: "The proposals which the Government have in view in connexion with insurance against sickness and invalidity are not likely, so far as I can judge at present, to interfere in any way with the business now carried on by industrial life assurance companies or societies. The proposed benefits do not include the provision of a funeral benefit or any immediate money payment on the death of a contributor or his relatives, nor, of course, will there be any endowment for children on attaining a certain age. The whole of this field will still be left open to the existing agencies."

It is stated that the scheme may be launched this session, but whether in the future the Goverment will tackle the Poor Law question on any large scale remains to be seen; it is, however, worth while to remember that both Mr. Asquith and Mr. Balfour, speaking in the course of the debate on the Prevention of Destitution Bill early last session, indicated pretty clearly that it will probably not be found advisable to do more than remedy certain defects from time to time as occasion offers.

HYDROTHERAPY.

FROM the earliest history of medicine hydrotherapy has played an important part in the treatment of disease. The medical literature of Greece and Rome tells us how extensively water was used as a therapeutic agent and gives us a descriptive insight into the magnificence and luxury of the baths which were at the command of the rich and well-to-do in those days. Though, in our times, hydrotherapy still maintains an important place in the cure and prevention of many ailments to which humanity is liable, it occupies comparatively a subsidiary position and is utilized mainly as an addendum to other therapeutic methods of cure. It is customary to resort to spas at home and abroad at certain seasons of the year to "take the waters," but the custom is a tribute to fashionable expediency more than to any deep-seated faith in the efficacy of natural water supplies as a *vis medicatrix*. Mineralized waters as they are derived from Mother Earth are still credited with curative properties, and on their reputation for the alleviation of this, that, or the other ailment the popularity of the various spas depends; but it is now fully realized that the good results which undoubtedly ensue from a three weeks' "cure" in suitable cases owe their success quite as much to the dietetic, social and climatic conditions which the various health resorts provide as to the physiological effects of the waters which are imbibed as the *sine quâ non* of the "cure."

No attempt nowadays is made to reproduce the luxurious appointments of the balneological establishments of the earlier days of civilization. The various baths and hydropathic applications are regarded as an essential but secondary element in the scheme of management at a modern spa. It is recognized that while baths have a well-established value, they are useful only when administered in conjunction with a regulation of life otherwise suitable to the conditions of disease which it is desired to cure or prevent. Like every other system of medication, hydrotherapy has suffered discredit from the extravagant claims of its over-enthusiastic advocates, and has become, in the older countries of the world, a therapeutic method within the compass of the leisured and moneyed classes only—one which may be resorted to either when everything else fails at home, or when it is convenient to make health an excuse for a holiday in some fashionable and well-appointed resort abroad.

The attractions offered by hydropathic treatment, which, even though of limited application, has become venerable with the traditions of age in the Old World, have not failed to find votaries among invalids and valetudinarians in those quarters of the earth where civilization is still young, and imbued with the activity and optimism of youth. Australia, New Zealand, and Africa all possess their *thermae*, to which flock large numbers of people in the hope of finding in the curative properties of hot springs and mineralized waters relief to ailments which yield either slowly or not at all to remedial treatment by drugs and ordinary measures of hygiene.

But it is in the United States, of all countries in the New World, that we find the most ardent appeals made for popular resort to balneology and hydrotherapy. We have already expressed our conviction of the value of these methods of treatment if due regard is paid to their limitations and if they are subordinated to their legitimate place in the domain of therapeutics, but we protest against their exploitation as a means whereby every ailment to which humanity is subject may be brought within the sphere of control or even of amelioration. We have yet to learn that such disorders as influenza, smallpox, cerebro-spinal meningitis, pneumonia, leucocythaemia, cerebral apoplexy, insanity, leprosy, or the various drug habits—to name a few only of the disorders which are enumerated as amenable to hydrotherapeutic action—are favourably influenced or even helped at all by the water cure except in so far as this is resorted to as an incidental part of general treatment.

And yet much recent literature is reaching us, especially from America, which, by implication, asks us to regard hydrotherapy as little less than a panacea for disease in general. We find striking illustrations of this contention in two books which have been published recently. In one of these, a formidable volume of between 600 and 700 pages, from the pen of Dr. Curran Pope of Louisville,[1] nine chapters are devoted to the physiological action of water in its external and internal uses, to the technique of hydrotherapy, and to the equipment of hydrotherapeutic institutions and sanatoriums. This part of the book is profusely illustrated, but many of the plates are more suited to the pages of an institution prospectus or of a stores list than to the embellishment of a scientific treatise. The remainder of the book, comprising about two-thirds of its total contents, is a systematic description of disease in almost all its manifestations. Surely Dr. Curran Pope does not intend his readers to believe that hydrotherapeutic methods are essential or even desirable in every ailment! And yet this is the only inference to be drawn from his elaborate compilation. He himself seems to be in some doubt as to the utility of such supererogation, because in an explanatory sentence of his preface he says: "Some will doubtless think that the chapters dealing with nervous and mental diseases, drug habits, and alcoholism have been needlessly enlarged. The nihilism of therapeutics that pervades these branches, the neglect of a remedial measure so powerful for betterment and 'cure,' has led to a broad and full consideration of these subjects, with the hope that specialists in these various fields of the therapeutic art may be induced to use this remedy more extensively than is the case at present." The practical value of any work on a special subject is, however, seriously impaired by needless excursions into other, even if collateral, fields of research and observation.

Another recent work, by Dr. Guy Hinsdale of Philadelphia,[2] is open to much the same criticism. But, in regard to this volume, it must be admitted that the references to the principles and practice of medicine are mostly utilized to emphasize the beneficial effects of hydrotherapeutic treatment on certain symptoms which are described for the purpose of indicating clearly the special indications for the use of waters and baths. The author seeks to establish the underlying principles of hydrotherapeutic management, leaving it to the practitioner "to apply them, along with other remedies, for the improvement of the circulation, for enhancing the tone of the skin, for an effect upon the nervous system, or in any other way that moisture, or heat, or cold may be deemed useful." In discussing the subject of general hydrotherapy, a concise and clear account is given of the influence of baths on metabolism; of their effects upon blood pressure and upon the circulatory and respiratory systems; and of the general *rationale* of hydrotherapy. The action of saline and fresh-water baths is compared, and the Nauheim bath is made the text for a wise warning that for them, as for all other varieties of bath, there are certain contraindications which ought always to be remembered.

[1] *Practical Hydrotherapy.* A Manual for Students and Practitioners. By Curran Pope, M.D., Professor of Physio-Therapy, University of Louisville Medical Department, etc. 1909 Cincinnati: Cincinnati Medical Book Company. (Sup. roy. 8vo, pp. 661; 125 illustrations. 27s. 6d.)

[2] *Hydrotherapy.* A Work on Hydrotherapy in General. Its Application to Special Affections. The Technic or Processes Employed, and the Use of Waters Internally. By Guy Hinsdale, A.M., M.D., Secretary of the American Climatological Association; Lecturer on Climatology in the Medico-Chirurgical College of Philadelphia, etc. Philadelphia and London: W. B. Saunders Company. 1910. (Med. 8vo, pp. 466; 145 illustrations. 15s.)

NEW YEAR HONOURS.

The New Year honours list issued on January 2nd announces that the honour of knighthood will be conferred upon the following: Dr. H. B. Donkin, until recently one of His Majesty's Commissioners of Prisons, and now medical adviser to the Prison Commission and Director of Convict Prisons; Mr. F. S. Eve, surgeon to the London Hospital, and a member of the Council of the Royal College of Surgeons of England; Dr. David Ferrier, F.R.S., Emeritus Professor of Neuropathology in King's College and consulting physician to King's College Hospital and the National Hospital for the Paralysed and Epileptic, Queen Square; Dr. George Newman, who since 1907 has been chief medical officer to the Board of Education; Dr. J. M. Redmond, physician to the Mater Misericordiae Hospital, Dublin, and President of the Royal College of Physicians of Ireland from 1906 to 1908; and Lieutenant-Colonel David Semple, M.D., R.A.M.C., director of the Central Research Institution, Kasauli. The Kaisar-i-Hind gold medal has been conferred upon Lieutenant-Colonel Henry Smith, M.D., I.M.S., civil surgeon of Amritsar, Punjab; Major T. W. Irvine, M.B., F.R.C.S.E., I.M.S., late residency surgeon, Mewar, Rajputana. The baronetcy conferred upon the Right Hon. Leander Starr Jameson, M.D., C.B., and the knighthood conferred on Dr. John Henry Meiring Beck are given in recognition of services rendered in the establishment of the Union of South Africa.

ROYAL NAVAL NURSING SERVICE RESERVE.

The regulations for Queen Alexandra's Royal Naval Nursing Service Reserve, established under authority of an Order in Council of October 13th, 1910, have been approved by the Lords of the Admiralty and issued in pamphlet form. The Reserve is formed for the purpose of supplementing the staff of Queen Alexandra's Royal Naval Nursing Service during warfare on a large scale. The Director-General of the Medical Department, R.N., will be responsible for the administration and will co-operate with the authorities of the civil hospitals in its maintenance. The number of nurses to be enrolled is 250, but this number may be augmented as may be found necessary during hostilities. Certificated nurses who are actually on the staff of civil hospitals are invited to volunteer through the matrons, and with the approval of the executive of the hospitals to which they belong. They must be of

British parentage or naturalized British subjects. The nurses volunteering must be over 25 years of age and under 35; no nurse will remain in the Reserve after attaining the age of 45. Should necessity arise, volunteers may be called for from the Reserve to serve in hospital ships at home or abroad, in foreign hospitals or in other medical establishments. The nurses guaranteed from each hospital may for mobilization purposes be grouped into three classes: (*a*) Those proceeding on declaration of war, (*b*) proceeding in a fortnight, and (*c*) proceeding later in the war. The salary will be at the rate of £45 per annum. On being called out, £5 will be allowed to each nurse for her personal expenses. The period of service will be until the end of the war or until the service of the nurse can be spared, and on completion of service an honorarium at the rate of £5 for each period of six months or portion of six months will be given to each nurse who has carried out her duties to the satisfaction of the Admiralty. A uniform will be supplied similar to that of Queen Alexandra's Royal Naval Nursing Service, and a badge, which must always be worn in uniform, will be issued to each nurse on her being called out. The nurses will not be enrolled by name as far as the Admiralty is concerned, but, as stated, will volunteer through their matrons. Nurses in private nursing institutions or engaged in private nursing or other pursuits of civil life will not be entered; it is felt that their chances of obtaining situations in nursing institutions, or private engagements, might not be enhanced if it were known beforehand to their employers that they could be called on at any moment to leave their patients to serve their country. It is believed that the system instituted will have the advantage of providing a large and efficient reserve of nurses straight from hospital work for immediate service on the outbreak of war with the least possible disturbance of the routine of civil establishments, and with the smallest expense to the country. The system has, we understand, met with the provisional approval of many of the civil hospitals in the United Kingdom. As some consideration for the disturbance of the establishment, a donation of £3 will be given to a civil hospital for each nurse volunteering through it for service in time of war.

INJURED WORKMAN AND MEDICAL EXAMINATION.

THE case referred to at page 57 under the heading "Workmen's Compensation Act, 1906," and decided in favour of the employers, was that of a workman who refused to submit himself to a medical examination by a medical man employed and paid by the employers. In connexion with this case, we might point out that it is in keeping with the Report of the Council of the British Medical Association on the position of medical practitioners called upon to examine (otherwise than by the request of the patient or persons acting upon his behalf) patients who are under the care of other practitioners. In Paragraph IV of that report it is stated: "Of the cases in which the examination in question is made in connexion with a contract of employment, a large number arise under the Workmen's Compensation Act. In these cases the rights of the employer and of the workman, as regards the examination of the latter by doctors employed by the former, are to a great extent decided by statute. The workman will forfeit his claims to compensation if he throws any unreasonable difficulty in the way of his examination by the employer's doctor in the manner prescribed. On the other hand, the employer cannot demand as part of his statutory rights that any examination should be carried out in a manner which may injure the workman's health, of which the workman's doctor is the recognized guardian." This is the view taken by the judges in the Scottish Court of Session, and it was held that circumstances necessitating the presence of the workman's medical man had not arisen. Paragraph VI of the report, however, does not quite coincide with the findings of the judges. It states: "It is reasonable that he should [that is, the workman] be protected against injury in connexion with the examination, and he may demand, if he think proper, that his own doctor should be present at the examination to watch his interest in this and any other respect." In Paragraph VII, however, this is qualified by the statement: "In view of the considerations above stated, it may be assumed, for the purpose of the present report, that in every case which requires consideration in the report the patient is satisfied, before any question of relations of the two doctors arises, that it is to his interest to submit himself to examination, and the medical practitioner who acts on his behalf can claim no rights upon grounds of medical ethics or medical etiquette, the exercise of which would conflict with the interest of the patient." This, then, as we have already stated, coincides with the finding of the judges of the Court of Session, and it would be well if medical men who act on behalf of injured workmen would keep this case in view and advise their patients accordingly.

BARBERS AND SURGEONS.

THE second part of Dr. George A. Fothergill's *Stones and Curiosities of Edinburgh and Neighbourhood*[1] touches matters of medical interest in its "story of a barber's bleeding dish." As a matter of fact, the bleeding dish in question was not one at all, but only a public house ale-tray or ale-plate beaten out flat and with its rim cut off; but it serves to direct the reader's attention to those brass plates which can still occasionally be seen dangling from the end of the barber's red, white, and blue pole, mutely witnessing, perhaps, to the former alliance between the barbers and the surgeons and to the performance of bleeding as well as shaving by these early practitioners. The brass dish represents the plate used to receive the blood, and the piece cut out of the rim enables it to be pressed closely against the arm (but some say the notch is to fit under the chin of the person being shaved); the white ribbon on the pole is supposed to be the bandage tied round the arm, and the blue indicates the venous blood of a phlebotomy, whilst the red stands for the arterial in the less frequently practised arteriotomy. Dr. Fothergill has found that the Edinburgh Surgeon-Barbers' Guild, which is regarded by Dr. J. Smith as the earliest surgical corporation chartered in the United Kingdom, was preceded by the London Guild (still having its ancient hall in Monkwell Street, Cripplegate), which received its first charter from Edward IV in 1462. The London company was granted another charter in 1540 by Henry VIII, under which the barbers were forbidden to practise surgery and the surgeons barbery. After the year 1745 the Company of Barbers and the Company of Surgeons were distinct bodies. With regard to the Edinburgh Guild the writer quotes as follows from Maitland's *History of Edinburgh*[2]: "The Barbers of Edinburgh, on the first day of July in the year 1505, were by a Charter from the Town Council,

[1] *Stones and Curiosities of Edinburgh and Neighbourhood.* By George A. Fothergill, M.B., C.M. Part ii. Edinburgh: John Orr. 1910.

[2] *History o Edinburgh.* By William Maitland, F.R.S. 1732.

incorporated with the Surgeons; but, imagining themselves injured in their Rights and Privileges by their new Brethren, frequent disputes arose; which continued till the 23rd February, anno 1722, when in a Process before the Court of Session, the Barbers were, by a Decree of said Court, separated from the Surgeons in all respects other than registering their apprentices with the said Surgeons, to be admitted both by them and the Barbers." For long before this year (1722) the surgeons had incorporated themselves in what the barbers called a "mongrel" society, known as the "Surgeon-Apothecaries"; this was in 1657, and was one of the causes of the quarrel which finally came to a head in 1718, and ended, as has been stated, in 1722. Dr. Fothergill's gathered notes on the barber's business are interesting. The art of hairdressing, shaving, blood-letting, etc., was formerly termed "Barbourie craft," and those who followed it as a trade were called "Barbouris." When any one had been attended to in this respect he was said to have been barbourised. To be a barber in Edinburgh in early times it was necessary first of all to be a freeman and burgess of the town. The would-be barber was also examined carefully by the "Maisters" in his craft before being admitted as a member of the guild. Upon being admitted he was at once known as "Maister Barbour," and could "practise" as such. He was obliged, too, to pass an examination on "the anatomy of the human frame, and the nature and complexion of every member of the human body; he must also know the veins of the same that he may mak Flewbothamea (blood-letting) in dew tyme." The barbers were completely severed from the surgeons only in 1845, but the former "body lingered on until 1893, when the last meeting was held, there being only one member in existence. Since then he has disappeared, and so have the funds." Yet in 1810 the barbers were a powerful body, for they marched "four and four, their Praeses in their rear," at the funeral of the Lord Provost of Edinburgh, and other fourteen corporations came after them in order of their precedency. But the glory has faded, and nowadays one has almost to apologise for speaking of *barbers*. As Dickens (in *Master Humphrey's Clock*) put it: "I would suggest that *barbers* is not exactly the kind of language which is agreeable and soothing to our feelings. . . . I believe there *is* such a word in the dictionary as *hairdressers*."

HAIRDRESSERS AND HYGIENE.

What powers the National Institute of Trichologists possesses in respect of its members we do not know, but if membership of the body imposes compliance with its recommendations, the conditions in which public hair cutting and shaving are conducted seem likely to improve very materially. The institute is anxious that hairdressers, in the interest alike of themselves, their customers, and the public health, should study the hygiene of their calling and do their work in accordance with the requirements thereof. By way of facilitating matters, it has drawn up with medical assistance a code detailing what methods in hairdressing and shaving are desirable and undesirable respectively. Many of the recommendations do not seem to involve any material departure from practices already common in high-class hairdressing saloons, but others are comparatively novel. The use of machine brushes, of sponges, of alum blocks, powder puffs, soap tablets, and naked head rests is condemned; while clippers, if used at all, should, it is stated, be taken to pieces each day and thoroughly cleansed with hot water and a disinfectant solution. Insufflators charged with borax and starch powder should be used whenever powder is required, and cotton-wool pads substituted for sponges. Each attendant should have at least three combs, wash each as it is used, and place it in a disinfectant until again required. Scissors after similar treatment should await further use in a hot cupboard. Hairbrushes, of which each attendant should possess several, should be used in strict rotation, be dipped in a disinfectant after each use, then shaken out and stored in a hot cupboard. Lathering brushes should be numbered and similarly treated, except that they should be kept in the disinfectant and not placed in the hot cupboard. As for razors, each attendant should possess not less than three, and before use dip them in boiling water and disinfectant solution. When the shaving is complete they should again be dipped in boiling water and disinfectant, then sharpened on a strop kept clean and free from dust, and finally, after again dipping in a disinfectant, placed in the hot cupboard until further required. The soap used should be a powdered germicidal soap, kept in bottles with glass sprinklers. Cut hair should be swept into metal receptacles and subsequently burnt. The saloons should be well ventilated and their floors washed daily with a disinfectant solution. It is also laid down that an attendant before setting about his work with each customer should wash his hands with antiseptic soap, or at least dip them in a chinosol solution (5 grains to a pint), which is the disinfectant recommended throughout. These regulations as a whole seem to have been well thought out, the methods recommended conforming to aseptic principles probably quite as far as is practical or as can reasonably be demanded.

PERSEVERATION.

In the December number of *Knowledge* there appeared an interesting article by Mr. John Gray on perseveration. The sensation of a colour persists for a short time after the external impulse has ceased. This time, which can be used as a measure of perseveration, is determined by having a rotating mirror momentarily reflecting as it passes behind an eye-hole a beam of coloured light to the eye. If the persistence is less than the time interval between two successive impulses the colour will flicker, while it will be continuous when equal. A speed indicator is attached to the axis round which the mirror rotates. The persistence of colour sensations in the person tested is inversely proportional to the critical speed. It is necessary to have a constant source of luminosity in making comparative observations. Mr. John Gray gives a figure of his simple apparatus by which the end in view is obtained. Mr. John Gray supposes that in the colour blind the sensation excites only the lower-level nervous centres, and does not reach the high-level centres, and so is not perceived. The quality of mind which the psychologists call "perseveration" influences mental growth by the control which it exercises upon the association between two or more neural systems. There is an association tract formed between *a* and *b* in the child's brain when he sees a dog and hears the word "dog." The resistance in the tract is lowered by habit. It is necessary that the excitement in *a* should be very much reduced before *b* is excited. If the persistence or perseveration in *a* is long, there will be a tendency to slowness and fixity of ideas; if short, the flow of ideas will be rapid. The man with a longer persistence tends to be an abstract thinker, one with a shorter persistence a man of ready wit and immediate action. Too long and too short a persistence mark the abnormal mind. Mr. Gray finds the persistence is

shorter in women than in men. Thus he proposes with his apparatus to investigate the quality of different minds.

THE RETREAT, YORK.

WE are glad to see from the annual report of this famous institution that the eminent position it has held since its opening in 1796 is still maintained under the medical superintendentship of Dr. Bedford Pierce. The report for 1909 shows that the year's work was satisfactory, that the recoveries were more numerous than usual, that the average number of patients was the highest on record, and that there was reason to believe that the income would be found to exceed that of any previous year. This latter is a very important matter for an institution of this kind, whose whole resources are applied to the comfort and well-being of the patients. The outstanding feature of the year was the opening of the new buildings—the recreation room and the medical superintendent's house—by Mr. Henry Tuke Mennell, a lineal descendant of the founder of the Retreat. Also, 1909 saw the successful establishment of a department for the training of mental nurses. This department will no doubt prove of benefit to the public. In his report Dr. Bedford Pierce touches on one or two matters of general interest. Among these Dr. Pierce refers to the treatment of incipient insanity. In Scotland the law permits of detention without certification for a limited period. This provision, however, is in practice applied to patients under private care, and, in Dr. Pierce's opinion, does not meet the requirements of patients with limited means. Now, Dr. Pierce says, if the law requires amendment to enable cases of recent unconfirmed insanity to be nursed in lodgings for, say, six months, why not in public institutions visited by Commissioners, and in no sense pecuniarily interested? Dr. Pierce therefore hopes that the next Lunacy Act, which will undoubtedly legalize the temporary detention of incipient cases of mental disorder, will not exclude the very places best able to give the most effective treatment.

THE RESEMBLANCE OF COUSINS.

WE have received a copy of a paper by Mr. E. C. Snow entitled "On the Determination of the Chief Correlations between Collaterals in the Case of a Simple Mendelian Population Mating at Random.[1] The memoir is largely mathematical in character, and consequently not suitable for discussion in these columns, but it contains some points of interest to medical inquirers. Miss Elderton showed in an earlier paper that the relationship between cousins was, for the characters examined, as great as or greater than the correlation between a child and the parental brothers or sisters. This result suggested that, in considering the family history of a patient, details regarding the cousins were of an importance at least equal to that of an inquiry as to parental collaterals—a fact of some significance, since in many cases the former information is more easily obtainable than the latter. Mr. Snow points out that these experimental facts are in accordance with the results which flow from the hypothesis adopted as the starting point of his analysis; indeed, under certain circumstances, the cousin correlation might actually be greater than the parental one. Other conclusions are: (1) When the recedent character is rare, as will often be the case in pathological inheritance, the correlations founded on Mendelism have low values, and in certain cases approach zero; (2) the correlation between brethren is always greater than that between parent and offspring; (3) the grandparental correlation is always the same as the avuncular. Mr. Snow's paper will repay study by those who have sufficient mathematical knowledge to enable them to follow the reasoning.

[1] On the Determination of the Chief Correlations, etc. By E. C. Snow, B.A., *Proc. Roy. Soc.*, B, vol. lxxxiii, 1910, p. 37.

AUSTRALIAN MINERS AND LUNG DISEASES.

IN March last Sir Gerald Strickland, the Governor of Western Australia, appointed Dr. J. H. L. Cumpston a Royal Commissioner[1] to investigate and report upon: (1) The prevalence amongst miners of pulmonary diseases; (2) the nature of such diseases; and (3) the extent to which they are associated with, or consequent on, mining. Evidence was taken from many witnesses, including mine managers and medical men. The Commissioner divides his report into three sections: (1) Statistical, which deals with the prevalence of lung diseases in miners during the past ten years; (2) results obtained by an examination of 2,050 men, of whom 1,805 were examined when at work; and (3) experimental. It is to be regretted that the Commissioner had the opportunity of seeing only two *post-mortem* examinations, one of which was not of a miner. There is evidence to show that during the last few years there has been a considerable increase of pulmonary disease in miners over 15 years of age compared with the male population generally. While the increase has been in the direction of tuberculosis, there has been a sensible decline in pneumonia. Between 25 and 60 years of age the percentage of deaths is higher in miners than among other occupied males. Miners have three and a half years less of life than the average male population over 15 years of age. As a result of his examinations fibrosis of the lungs was found to be present in machine miners to the extent of 33.16 per cent., in non-machine miners to the extent of 7.23 per cent., in truckers to 3.1 per cent., and in dry treatment hands to 24.5 per cent. Pleurisy exhibited no predilection for any one class of miners specially. In 3.8 per cent. of the miners examined the lungs were tuberculous. Among the miners of Western Australia, as among the miners on the Rand, dust is the cause of pulmonary fibrosis. At present tuberculosis of the lungs is not met with in the Australian miners to any great extent, and in no circumstances, so far as mining is concerned, can it be regarded as an industrial disease; but there is a feeling that once the disease began in real earnest it might spread among miners by personal contact rather than through dust in the mines. The purchase of clothing worn by miners who had succumbed to phthisis would have to be prevented as far as possible unless sufficient care was taken to have the clothing thoroughly disinfected. It is still an unsettled point in pathology as to how far the action of dust upon the lungs prepares the way for the readier reception of the tubercle bacillus. Fibrosis destroys the efficiency of the lungs for the purification of the blood, and when there is in addition the co-existence of thickened pleura binding down the lungs, aëration of the blood becomes wellnigh impossible. Once an impetus has been given to the development of fibrosis by the irritating action of dust, the morbid changes which are induced are likely to progress even after the removal of the individual from the sphere of his labour. Pneumonia among the miners of Western Australia is dying out, whereas tuberculosis is increasing. Evidently phthisis is more prevalent among the miners of Western Australia than among British coal miners, and is

[1] Report of the Royal Commissioner on Pulmonary Diseases among Miners, Perth, Western Australia, October 4th, 1910.

largely the result of the hard character of the rock, especially in the gold mines. Taking the statistics of Western Australia, the Commissioner says that the deaths from lung diseases was for the whole population 15 17, all males 15.86, males over 15 years of age 19 62, and for the miners 27.02; while for pulmonary tuberculosis the figures in percentages are for the same classes 6.32, 6.36, 9 52, and 9.62 respectively. Tuberculosis of the lungs is therefore only slightly more frequent as a cause of death in miners than in the general population; but as under the term "all males over 15 years of age are included miners," the revised figures taken from other tables in the report give, for tuberculosis of the lungs in all males over 15 years of age (rate per 10,000), 9.60; and for miners (rate per 10,000), 19.21. During the last ten years tuberculosis has been twice as prevalent among the mining community as amongst males over 15 generally. In England and Wales miners as a whole suffer more heavily than the average population from respiratory diseases, and yet their mortality from phthisis is little more than half the standard. Speaking of coal miners, Dr. Cumpston says that while among them "the incidence of the various diseases of the lungs is low, and is therefore low for all miners (as coal miners constitute nine-tenths of all miners in England and Wales), yet among tin miners, the group most similar to the gold miners of Western Australia, the mortality from lung diseases is unduly high. While, however, coal miners are not more subject to diseases of the lungs than the general population, it is interesting to observe that with the exception of 'accident,' the three causes of death amongst coal miners which give the highest figures are pneumonia, bronchitis, and phthisis in that order." The pleurisy from which the men suffer is attributed by the Commissioner to the rapid changes in temperature to which the men are exposed. Space does not permit of more than the briefest allusion to Dr. Cumpston's experimental investigations, which seem to have been carefully carried out and the results of which confirm the opinions of other workers upon the subject. The furnishing of this information is preliminary to the "scope of the Commission being extended with a view to recommending means for minimizing and preventing the occurrence of such diseases." To that end Dr. Cumpston's report will be most valuable.

CHEAP SNEERS AT THE DOCTOR.

WE are accustomed to pictures of the doctor as a callous scientist experimenting on his patients in excess of zeal for research, and though such descriptions may not strike us as being altogether in good taste, they express one point of view and hurt no one. The medical profession also takes with equanimity the banter, which sometimes runs to ridicule, and laughs with others if the distorted figure of the doctor is at the same time humorous. But for gratuitous bad taste we have rarely, if ever, read anything to equal a paragraph in a book with the lucid title *Let the Roof Fall In*, by a writer of the name of Frank Danby. A gentleman rider, as the result of a fall in a steeplechase, has broken his back. Instead of the surgeon leaving him alone "he was not allowed to die." "He was to be carried up to London in an ambulance and to be taken to a nursing home to be experimented upon." . . . "Science got to work on him, and all the surgeons and physicians of Sir Gregory's own hospital set, whom he called in consultation, carefully avoiding all those of any other school, benefited by the large fees he asked for them. Practically, amongst them, they vivisected him, performing new and unheard-of operations, running through Röntgen rays and radium, electricity, and the introduction of innumerable bacilli, and micrococci and phagocytes, torturing the patient under chloroform or ether, or half a dozen new anaesthetics, delaying disastrously the inevitable end, to their own great pecuniary advantage and self-glorification, but never to the patient's well-being." There is more of the same sort, but this is sufficient. The sneers about fees does not come gracefully from one who probably accepts payment for writing such rubbish as this, which apparently has nothing to do with the necessary development of the story, and only serves to fill up an extra half page. It may happen that "Frank Danby" may some day need the help of some medical practitioner, and possibly would feel hurt if the favoured individual who was summoned, having read the above extract, showed some hesitation in visiting a person who might afterwards describe his assistance in such terms as we have quoted.

SLEEPING SICKNESS.

DR. STANNUS, officiating for the Principal Medical Officer of the Nyasaland Protectorate, has continued down to October 31st, 1910, the latter's diary on sleeping sickness for that territory.[1] He states that doubt is entertained by several medical men there as to the identity of the pathogenic trypanosome in the late Nyasaland cases with the trypanosome of sleeping sickness. Further, the clinical picture presented by the cases would also appear to differ slightly from the disease as seen in Uganda, the symptoms presented corresponding with those of a rapidly progressive case of sleeping sickness as met with elsewhere. This increased virulence Dr. Stannus believes might be explained on the hypothesis that the parasite had adopted and passed through an unusual carrier, namely, *G. morsitans*. Mr. Neave, in a report on his recent journey to the Luangwa Valley, when he followed the Luwumbu River from Katumbi to its junction with the Luangwa, states that evidence as to the existence of *G. palpalis* or *G. fusca* on these rivers, including the neighbourhood of Nawalia, was negative, though the country was not altogether unsuitable for the latter species. Most of the country visited by him was unsuitable for *G. palpalis*. He concludes by saying that there is considerable justification for excluding *G. palpalis* as the cause of the cases of sleeping sickness in the Luangwa Valley.

FORMAL notice is given in our advertisement columns that an election of one member of the General Council to represent the registered medical practitioners resident in Ireland is about to be held. Any registered medical practitioner resident in Ireland is qualified to be nominated as a candidate, and nomination papers must be delivered on or before January 18th, addressed to Mr. Richard J. E. Roe, 35, Dawson Street, Dublin, from whom forms of nomination papers may be obtained.

AN international congress for the organization of measures for the suppression of the opium traffic will be held at The Hague on May 30th, 1911. Among the nations which will take part in the congress are Great Britain, the United States, France, Germany, Italy, the Netherlands, Portugal, Russia, Japan, China, and Siam. Great Britain will propose that morphine and cocaine shall be included together with opium in the prohibitive enactment, and this proposal will, it is said be supported by the United States.

[1] Nyasaland Protectorate. Sleeping Sickness. Diary, Part XII. By the Officiating Principal Medical Officer. 1910. Zomba: Printed by the Government Printer.

England and Wales.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

MANCHESTER.

THE COMPULSORY DETENTION OF PAUPER CONSUMPTIVES.

THE question of the compulsory detention of paupers suffering from consumption has on several occasions lately been discussed by the boards of guardians in the Manchester district, and at a recent meeting of the Salford Board the following resolution from the Plymouth Incorporation of Guardians was read and discussed:

> In the opinion of the guardians of this incorporation it is desirable that boards of guardians should be empowered to enforce admission to the workhouse infirmary of persons in receipt of outdoor relief suffering from phthisis, and also should be given compulsory powers of detention after admission.

During the discussion a motion to support the Plymouth resolution was proposed. Some objection was raised on the ground that it smacked too much of the penal to compel people against their will to take shelter in the workhouse infirmary, especially as there was only likely to be a temporary improvement in their condition. Some time ago a recommendation was carried that extra out-relief should be granted to consumptive patients living in homes where there was not sufficient accommodation so as to enable them to have separate bedrooms. This extra relief, it was stated, would cost the ratepayers only 3s. or 4s. a week per patient, whilst if they were brought into the workhouse the cost would be 10s. a week. It was pointed out that if the guardians agreed to the resolution it would not necessarily involve the policy of compelling all consumptives in receipt of out-relief to go into the infirmary. It only meant that they would have discretionary power to compel those cases to go inside that were not being properly treated at home, that each case would be judged on its merits, and that it would be a lever in the hands of the guardians if people knew that detention would be enforced if the patients were not properly looked after. It might be a hardship to take people from their families, and it might not be possible to cure them entirely, or even partially; but at least others would thus be saved from future suffering. Mere notification of these cases was not sufficient, and isolation should be insisted on just as for scarlatina and diphtheria and the other infectious diseases. The proposal to support the Plymouth resolution was agreed to, and, though at present the Salford guardians have not sufficient accommodation for the treatment of this class of patients, the supporters of the proposal thought that it would, perhaps, force them to make provision.

A letter was also read from the Medical Officer of Health for Salford, in reply to a suggestion, made some time ago, that there should be co-operation between the Health Committee and the guardians with regard to investigations about overcrowding and other undesirable conditions in houses. The Health Committee said it would be glad to co-operate with the guardians in the manner indicated, and would forward printed forms for the use of the relieving officers.

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

DIPHTHERIA AT DUNDALK.

THERE has been a good deal of diphtheria lately in the neighbourhood of Dundalk, and several deaths have occurred. Last week the coroner very wisely determined to hold an inquest on the body of a child which had died from the disease, the real object of the inquiry being to call the attention of the public to the importance of obtaining medical advice as soon as symptoms of sore throat were complained of. In the case in question no medical advice had been sought until eight days after the beginning of the sickness, and from remarks made at the inquest it appeared that in most of the other deaths that had occurred there was similar neglect. The coroner stated that in the future he would hold an inquest on any case in which medical attendance had not been obtained in proper time.

CHRISTMAS IN THE HOSPITALS.

At most of the Dublin hospitals Christmas was celebrated by the holding of one or more entertainments for the patients, and, as usual, numerous kind friends lent their services, so that excellent programmes of music and recitations were provided. Christmas trees for the children were the rule, and seemed to be thoroughly appreciated. Approaching Christmas time, indeed, many of the children are pathetically anxious not to get well too quickly for fear of losing their share in the good time to which they have been looking forward. The public also seem thoroughly to enjoy these hospital entertainments, and some succeed in visiting more than one of them during the afternoon.

OLD AGE PENSIONS.

The expiration on December 31st of the Poor Law relief disqualification will result in the extension of the benefit of the Old Age Pensions Act to large numbers of persons in Ireland; thus in co. Mayo alone it is calculated that nearly 1,000 new pensions will be granted, of which about 800 will be to individuals who had previously been in receipt of outdoor relief. It is probable, however, that many possible pensioners in the workhouses throughout Ireland will prefer to remain within the workhouse, as most of them will consider that they are likely to have better care inside than they could possibly hope for outside at 5s. a week. Out of 200 eligible in the co. Mayo workhouse it is thought that not more than 80 will apply for their pension.

INSPECTION OF SHIPS.

The Newry No. 1 Rural District Council, acting on the advice of the medical officer, has issued orders for the medical inspection of all ships coming into Carlingford Lough from plague-infected ports. The ideas prevalent, however, amongst the members of the council concerning the value of medical inspection and the work involved must be rudimentary, judging from the fees which they have decided to offer for the discharge of this duty. The ships which enter the lough lie three miles out from the shore, and the fee which the council offers for rowing to the ships and back and for inspection is the modest sum of half a guinea, with an allowance of 2s. for the boatman employed.

Scotland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

STUDENTS' HOSTELS IN GLASGOW.

THE question of hostels and residences for students has, as in the case of Edinburgh, been occupying the attention of the educational authorities in Glasgow for a considerable time. Existing conditions were so unsatisfactory that efforts were repeatedly made by the teaching bodies concerned with the training of students to bring about improvements, but financial and other considerations always hampered them, so that the provision of accommodation which could be offered to students along hostel lines has been of small and totally inadequate extent. The Provincial Committee, appointed some time ago, desires to establish a system of hostels which would embrace all the students in training, preferring, as far as is possible, that the university should have their own separate residences for students. Their aim is to build a number of small hostels, accommodating something like fifty students each, rather than one big establishment. This scheme would have the

advantage of enabling the hostels to be erected in different districts, possibly outside of the city area, so that students might have the benefits of country residence with easy access to their training centres.

So far, nothing definite has been done in the matter of securing sites beyond the inspection of certain pieces of ground, but the committee anticipates making an early start with whatever scheme may be decided upon. Meantime, several houses have been taken for temporary residences, and the committee hopes soon to be able to have accommodation for 200 students. These hostels will probably be opened in time for next session.

COUNTY MEDICAL OFFICER FOR BERWICKSHIRE.

Dr. McWhan has been appointed County Medical Officer for Berwickshire at a salary of £400. Dr. McWhan is at present one of the School Medical Officers for Fife.

ROYAL INFIRMARY, EDINBURGH.

The annual report stated that during the year from October 1st, 1909, to October 1st, 1910, there were treated in the wards of the infirmary 12,342 cases, being a decrease of 46 on that of the previous year. Of these, 4,318 were medical and 7,219 were surgical. The average time each patient was under treatment was 25.1 days.

Mortality Figures.

The deaths which took place within forty-eight hours after the patients' admission numbered 119. These unduly raise the rate of mortality, having mostly occurred in cases either of severe injury or of a hopeless nature. The percentage of deaths to cases treated was 6.2, against 6.7 last year. If deaths occurring within forty-eight hours of admission were deducted the percentage would be reduced to 5.3.

Out-patients.

Besides the 12,342 cases treated in the wards, 38,930 out-patients (most of whom attended several times) received medical and surgical aid, and such dressings and surgical appliances as were necessary.

Expenditure.

The entire ordinary expenditure during the year (including the out-patient departments) per occupied bed was £64 7s. 10d., or an increase of 14s. 8½d. on 1909. There was, per occupied bed, a decrease of 2s. 0½d. in maintenance, and an increase of 7s. 1d. in medical expenditure.

MEDICAL REFEREES IN COMPENSATION CASES.

At the annual conference of the Federation of Scottish Miners recently held at Ayr the following resolutions were adopted:

That the Federation presses for an alteration in the system of appointing medical referees under the Workmen's Compensation Act so as to secure the appointment of men specially qualified to deal with particular cases coming before them, and that in every instance a medical board of three referees should decide upon disputed cases.

Further, that when workmen are held to be able for light work, it shall be compulsory for the employer to provide suitable employment or pay full compensation until the injured workman finds suitable employment.

PRACTICE IN SHETLAND.

According to a report in a recent issue of the *Shetland News*, a public meeting was held at Queness, under the chairmanship of Captain Pearson, Ground Officer, to consider the best way to raise money for the purpose of getting a doctor for the parish, and what amount would be required. The meeting finally resolved that the sum of £20 must be collected in the parish yearly to remunerate the doctor. It will be seen, therefore, that the services of a medical man in Shetland are appraised at a very low figure. It is hardly to be credited that, even in Shetland, educated men like the factor and schoolmaster, could for a moment suppose that for £20 per annum a medical man could be got to minister to the bodily ailments of the people on the island referred to. The suggestion is so absurd that those attending the public meeting can hardly have been serious in their proposals. Unfortunately there are medical men who do accept appointments in the Highlands and islands of Scotland at less than a living wage, but their tenure of office rarely exceeds a year or two, because by that time they see the mistake they have made. As long, however, as these appointments are filled up, even for a short time, parish councils will not improve the position or increase the salary offered to the holders of these posts. Though the Scottish Poor Law Medical Officers' Association, through its energetic secretary, Dr. W. L. Muir, frequently warns medical men not to apply for ill-remunerated appointments in the Highlands and islands of Scotland, little attention seems to be paid to these warnings, which, as a rule, are inserted immediately after the advertisement in the medical as well as the lay papers, asking the applicants to communicate with the secretary of the association, Dr. W. L. Muir, Seton Terrace, Glasgow. The appointment referred to in the *Shetland Times* is a glaring instance of an attempt to decoy some unfortunate young man to endeavour to be "passing rich on £20 a year." It will be strange if any medical man will be found foolish enough to accept the appointment.

India.

[*FROM OUR SPECIAL CORRESPONDENT.*]

REPORT OF THE PASTEUR INSTITUTE OF INDIA.

THE ninth annual report, for the year 1909, indicates continued progress. The number of patients treated was 1,937, of whom 490 were Europeans and 1,447 natives. Of these latter 1,065 were Hindus, 323 Mohammedans, and 59 of other religions. Among these 24 deaths took place, or 1.2 per cent. of treated. Eliminating deaths which occurred during treatment or within fifteen days of its completion, there remain 11, or 0.67 per cent., of treated representing failures. The larger proportion of these failures took place among Indians. Seeing that of 100 persons bitten by rabid animals the number of deaths, untreated, is 14, these figures represent a substantial saving of human life. The aggregate of patients is the highest reached since the opening of the Kasauli Institution in 1900, notwithstanding that a Pasteur Institute has been opened at Coonoor in the Neilgheries which receives patients from Southern, Western, and Central India. It is proposed to enlarge the accommodation at Kasauli by erecting additional waiting rooms, an extension of the laboratory, quarters for indigent Indians, and a hostel for higher and middle class Indians. The financial position of the institute is sound. The director, Captain W. F. Harvey, I.M.S., contributes an interesting report on the statistics of the institute, and the professional aspects of the work done in it. He discusses, but not very hopefully, the possibility of extirpating rabies in India as has been done in England. The fact that a large proportion of bites are inflicted by jackals and other wild animals constitutes a substantial difficulty in undertaking preventive action in India with a reasonable expectation of success. The institute is also utilized for clinical examinations, and researches were carried out during the year regarding malaria, dysentery, Oriental sore, and other tropical diseases.

PLAGUE IN THE UNITED PROVINCES.

A report has been drawn up by Colonel C. C. Manifold, M.B., I.M.S., Inspector-General of Civil Hospitals, United Provinces, regarding the prevalence of plague during the "plague year" ending June 30th, 1910. After two favourable years there was a serious recrudescence of the disease. The seizures amounted to 151,298, and the deaths to 141,357. Cases began to increase in number in July, 1909, and continued to rise until they attained a maximum of 39,513 in March, after which there was a sharp fall to a minimum of 280 in June. Of the 48 districts into which the province is divided 4 registered a mortality of over 10,000, 17 over 1,000, 5 over 500; the remainder were practically free. The incidence of the disease was therefore partial, the districts most affected being

situated on the eastern side of the province, and adjoining each other. The cause of the recrudescence is obscure, but it was observed that dead rats were found in towns and villages before plague broke out among the inhabitants. The more intelligent evacuated their houses when dead rats were observed. The plague staff maintained during the violent outbreak of 1906-7, when 297,793 seizures and 268,774 deaths took place, had been disbanded during the two succeeding favourable years, and no new organization was maintained on a large scale to deal with the serious epidemic of 1909-10. Efforts were made to inoculate the inhabitants of infected areas, but there was great resistance on the part of the people. The number of inoculations performed was 76,120, and among these 442 deaths took place; but facts and statistics are given showing the advantage of the measure both in procuring immunity from attack and in mitigating the severity of the disease. Evacuation of houses and destruction of rats appear to have been the principal means adopted to control the epidemic.

ANTIMALARIAL OPERATIONS AT DINAJPUR.

Dinajpur is a flat district of Eastern Bengal situated north of the Ganges, intersected by a network of rivers and streams and abounding in tanks, swamps, and jungle. It is typically a paradise of mosquitos. The head quarters of the district is a town of some 14,000 inhabitants and partakes of the physical characters of the district. It is on the Gagra River, joined by several streams and canals passing through the town, and has 53 tanks. In 1908 the Sanitary Board of the Province of Eastern Bengal and Assam, to which the district was assigned at the time of the famous partition of Bengal, deputed Captain M. F. Reaney, M.B., I.M.S., to survey the station for the purpose of devising measures for the suppression of malaria for which the district and town have an evil reputation. He suggested proceedings for (1) improving drainage, (2) destroying mosquito breeding places, and (3) distributing quinine during the fever season at an estimated cost of Rs. 6,200. The report of the Provincial Sanitary Board for the year 1909 indicates that these suggestions were put into active operation during that year. Drains were levelled and cleared or filled up, jungle cut down, compounds cleaned, pools abolished, tanks and watercourses oiled systematically by gangs of coolies, and quinine lavishly distributed. These works appear to have been strenuously carried out at a cost of over Rs. 14,000. The board considers that the statistics of the year show a slight diminution of malarial disease; but these statistics are not worthy of much reliance, and the civil surgeon, Captain D. P. Gail, I.M.S., thinks that it is too early to form any definite conclusions, and that the work must continue for several years before a decided pronouncement can be made one way or other. Similar operations were carried out in the station at Julpigoree with still more doubtful results. Screening houses with wire gauze was tried here, but objected to by the inhabitants on account of interference with ventilation.

Queensland.

[*FROM OUR SPECIAL CORRESPONDENT.*]

THE PUBLIC HEALTH.

ALTHOUGH the report for the year ending June 30th, 1910, of Dr. J. S. C. Elkington, the Commissioner of Public Health of Queensland, occupies only fourteen printed foolscap pages, it contains a great deal of interesting information with regard to this portion of the Australian Commonwealth. It is satisfactory to find that the Government adopted a suggestion made by a deputation from the British Medical Association, that a fully-equipped bacteriological laboratory, with a specially qualified medical officer in charge, should be instituted under the control of the Commissioner of Public Health. The Government analyst is doing good work in discovering adulterated milk, and fines were imposed during the year upon offending milkmen to the amount of nearly £100. Dr. Elkington very properly points out that an occasional fine of £5 can easily be borne by a dairyman, for he estimates that in Brisbane alone the inhabitants are paying some £2,500 yearly for water, retailed at 4d. a quart, in the guise of milk. Since the beginning of October, 1909, ankylostomiasis has been made a notifiable disease in the colony, but only one case has been notified, although it is matter of common knowledge that the disease is a prevalent one. Indeed, in one town a street has been nicknamed "Ankylostoma Alley," owing to the number of children residing in it who are affected. No single case of plague occurred in Queensland during the year—a circumstance which is attributed by Dr. Elkington to the wise and resolutely followed policy of his predecessor, Dr. Burnett Ham. In the metropolitan area of the State there is a rat gang of ten men, and seven rat destroyers are stationed elsewhere. Between them they destroyed in the year nearly 60,000 rats and mice. Of this number nearly 36,000 were examined, and five rats were found to be plague-stricken. In Dr. Elkington's opinion, permanent control of the rat question cannot be expected until legislation enables the animals and their haunts to be more effectually dealt with. The disastrous effects of phthisis as a poverty producer are commented on in the report, and suggestions are made as to the measures which should be taken to lessen the incidence of the disease. A regulation forbidding spitting on footpaths or in public places is in force, and the conviction of five persons offending against it in Brisbane is said to have had a salutary effect.

Bangkok.

[*FROM OUR SPECIAL CORRESPONDENT.*]

REPORT OF MEDICAL OFFICER OF HEALTH.

THE twelfth annual report of the medical officer of health for Bangkok, Dr. H. Campbell Highet, was issued lately. It covers the year ending March 31st, 1909. Ten years ago the department consisted of the medical officer, the chief sanitary inspector, an assistant inspector, and six coolies. Now the staff of the public health department includes the medical officer of health and two assistants, the veterinary surgeon, one quarantine inspector, one chief sanitary inspector, five second grade sanitary inspectors, ten third grade sanitary inspectors, three clerks, and 150 coolies regularly at work. During the past ten years extensive areas of marshy ground have been filled up, all old collections of refuse have been disposed of, hundreds of insanitary houses have been demolished, and in their place substantial brick buildings have been erected. Many new streets have been opened up throughout the city, all of good breadth, and trees have been planted along either side of most of these. Beside vast improvements in the sanitary condition of the town, advance has been made in the medical department. On the outbreak of plague in Bangkok some years ago, an infectious diseases hospital was erected; this hospital consists of five separate pavilions, along with the usual administrative buildings.

The chemical and bacteriological laboratory has done excellent work since it was established. Besides the hospital for infectious diseases, there are other three hospitals and a lunatic asylum under the control of the medical department.

During the year under review 6,294 cases were treated in the hospitals; of these, 434 died; this gives a low death-rate, 6.8 per cent.

Small-pox is endemic in Siam, but from time to time it takes on an epidemic form, as it did in 1909, when 379 cases were observed, with a death-rate of 9 per cent. Vaccination is practised largely in Siam. Dr. Highet mentions that vaccination was first introduced into Siam in 1840 by an American missionary. It was not, however, until 1904 that the Siamese Government undertook the preparation of calf lymph in Bangkok. A vaccine laboratory was then opened

and large quantities of calf lymph were supplied to the public. It was soon found that more commodious premises were required, and another laboratory was erected in 1906. Since the latter date 335,175 doses of calf lymph have been issued to the public. It will thus be seen what an important factor in stamping out small-pox a well organized system of vaccination will become. There is very little actual opposition to vaccination in Siam. There are no conscientious objectors in that country; the usual reasons for non-vaccination are indolence, carelessness, and often actual absence of opportunity.

Beri-beri is very prevalent in Siam, no less than 4,607 cases, with a mortality of 282, being reported. Dr. Highet holds the belief that the cause of beri-beri must be looked for in the eating of stale white rice, and this is borne out by other observers. The prevention is the use of parboiled rice. After the report of Drs. Fraser and Stanton in Java, and Dr. Braddon in the Malay States, who conducted a series of experiments in connexion with the dieting of coolies, Dr. Highet commenced the use of parboiled rice in the lunatic asylum, which, he says, was a hot-bed of beri-beri, and the results have been so remarkably successful that he has prepared a memorandum in order to lay before the Siamese Government the advisability of recommending that parboiled rice should be used in all Government institutions, and by the inhabitants generally. With regard to the lunatic asylum, he says that no new case of beri-beri has arisen since parboiled rice was first issued.

Special Correspondence.

PARIS.

The End of Coryza: Ultra-violet Rays and Panspermia.

At last! Coryza has been conquered! It is high time that this should have been accomplished. Society has talked enough about our powerlessness against the most ordinary kind of catarrh. "It is all very well," they complained, "to boast about the progress of medicine. Since the days of Aesculapius no cure has been found for a cold in the head." It was in vain we protested that the subject was trivial; *de minimis non curat . . . doctor.* Miserable excuse! Imprudent argument. The shade of Cyrano turning up the brim of his felt hat, displayed his profile, and went to demand an explanation from the shade of Gui Patin. Too trumpery a matter, Sir! Every sneeze sounded in our ears as a reproach, and we could not even retort with, "God bless you," an expression which, coming from us, would have seemed as a jest in the worst taste. That nightmare is over! Coryza has been conquered. As usual, the discovery was made indirectly and by chance. The advances of science are linked together, and call to each other to our bewilderment. One starts for India and lands in America. Aviation has had a double result. Starting from Douai with a bad cold in the head, Leblanc, who succeeded in accomplishing the circuit of the East, arrived at Amiens with his nostrils free from obstruction and dry; he was able to respond to the congratulations he received in Picardy in a clear voice. What can it matter if such an experience is unique? It is unquestionably decisive, for it is the first time that such a complaint has been cured in one hour. Another triumph of physiotherapy. To tell the truth, Charcot had already noticed that beyond the eightieth antarctic parallel one never caught cold. It is very seldom that on the eve of a great discovery there are not many signs foreshadowing its advent. But must we send our patients to the pole to cure them of coryza? One might as well think of prescribing to patients subject to that affliction a sojourn in the country of the penguins. The journey would be tiresome, and the stay monotonous. Aëroplanotherapy is very much more practical. All you have to do is to get into a Blériot or a Farman and let yourself rise 800 metres above all earthly miseries. Forthwith you feel better, and let yourself down gracefully into the arms of your doctor, whom you have summoned by waving your handkerchief, which will in future be useless except for use as a signal to your friends. There only remains now, as in algebra, to find the solution of the problem. What is the active element in the cure? Is it speed or altitude? The motorist who sneezes when he is running at a speed of 100 kilometres an hour does not get rid of his cold. Is it, therefore, altitude? But that is not a simple cause; it involves both the cooling and the rarefaction of the air. The similar action of the antarctic climate might incline us to believe it to be cold. But the question is more complex than that. Besides physical modifications, altitude involves chemical and electric modifications. We are acquainted with the effects of ozone, but what of the ultra-violet rays? Raybaud's biological spectrum, which projects on mould cultures the light of Hewitt's quartz lamp, demonstrates in the most striking and picturesque fashion that micro organisms are unfavourably affected by the ultra-violet rays. As the length of the wave decreases the cultures become attenuated, and below 305 millimicrons they are completely sterilized. Now the proportion of ultra-violet rays sent to us by the sun and arrested by our atmosphere increases with altitude. The same holds good with regard to the purity of the air. All microbic life must therefore cease at a certain altitude, not so much through the want of oxygen as owing to the destructive power of what has been termed "dark light." M. Houllevigne has recently called attention to a whole realm of hitherto undefined phenomena which have to be studied. To effect a cure it is necessary to find the limit where the air, although not harmful to the higher organisms, makes life impossible to their parasites. And, incidentally, to bring this letter begun in a flippant strain to a dignified close, to show how the most trivial observation may open out the widest horizons and how a simple cold may carry us into the region of metaphysics, it may be pointed out how rash and utterly unfounded is the theory of panspermia, which lately, after centuries of oblivion, has been resuscitated to a new life. According to this theory, the universe is peopled by germs which dying worlds, which are becoming disintegrated by increasing radio-activity, transmit by way of the ether to living worlds. Thus, in the interstellary space there would be an eternal uncreated matter, spores of bacilli continually floating about in search of a region favourable to their development, in accordance with the Darwinian theory. But how is this hypothesis to be reconciled with the fact that the universe is traversed by rays in which no living thing can exist? The sun, which after all is only the most common and one of the humblest of the stars, on account of its temperature of 6,000°, emits rays whose wave length decreases to 100 millimicrons, the ultra-violet rays beginning at 395. And what of the other stars? It is to our own atmosphere that we first adapt ourselves. Life can begin on any planet when the latter, surrounded by a gaseous envelope, dwells in a "splendid isolation." The protoplasm of the first monera, if it is not brought to it by one of the demiurges imagined by Plato, can only be derived from its own substance. I hope that it will be a great satisfaction to you, as it is to me, to know that our bacilli at least do not come to us from a strange world, and that we are absolutely and entirely those sons of Earth, of whom your—and our—Meredith sang.

The second Food Congress will be held at Liége in 1911. Professor A. Jorissen, of the University of Liége, is Chairman of the Organizing Committee.

The thirty-second meeting of the German Balneological Congress will be held in Berlin, under the presidency of Professor Brieger, from March 2nd to the 6th. Forty-five communications have already been promised. A discussion on radium will be introduced by Professor Marckwald of Berlin, who will deal with the subject from the physico-chemical standpoint; and Professor Kionka of Jena, who will speak from the biological point of view. All communications relating to the Congress should be addressed to the General Secretary, Geheimrat Dr. Brock, Thomasius strasse 24, Berlin, N.W.

Correspondence.

STATE SICKNESS AND INVALIDITY INSURANCE.

SIR,—The interesting correspondence on the proposed State insurance scheme appears to have dwindled within the last few weeks into the somewhat heated discussion of a relatively unimportant detail. It is a remarkable psychological phenomenon that at one of the most momentous periods in the whole history of the profession, instead of considering and advising as to the best method of inaugurating the new system, and taking advantage of its inception to modernize and readapt our working methods to the present state of our knowledge—as we might be expected to be doing by the community—or, even from our own particular point of view, discussing how much we ought to be paid for our services—instead of this, we are exercising our wits in arguing as to which of two systems it is better for our paymaster to employ in making payments. We appear to be actually more concerned as to how he shall pay us than as to how much he shall pay us. Who shall say that sentiment is dead in the world, even if it be foolish sentiment?

This sentimental attachment to payment "for work done," as it is called, probably arises from the supposition that "capitation payment" would result in something identical with the club system of payment. Now, as Dr. Maclean so ably pointed out at the last annual meeting of Representatives, nothing could bear such a plausible resemblance to truth and yet be farther from it. Provided we take adequate steps to ensure that medical services are paid for directly by Government and not by hundreds of societies and clubs, the new system will be as distinct from the club system as light is from darkness. This, however, is just what we shall fail in doing if we continue wrangling about "how" we are to be paid, while the friendly society officials, using all their powers and influences, place an easily worked scheme before Government, and we place an impossible, difficult, and absurd one. The societies in such a case will win, and then they will work and sweat us, making good salaries for numberless middlemen, and treating us in the future as they have in the past.

In the first place, it is only a popular catchword to win the favour of the colleague who has thought but little about the subject to describe the system of a tariff of fees as "payment for work done" in contradistinction to a system of payment by capitation. Both are "payments for work done." The only difference is in the mode and not in the amount of payment; and the profession can be sweated or well paid under either system. The doctor who has a greater number of patients will have both more work to do and more "payment for work done" than he who has less patients, and therefore less work and less "payment for work done." Taking the rough with the smooth, in any practice containing over 1,000 people the individual whose case demands more work than his capitation fee is worth will be levelled up by the patient who requires little or no attention. A good deal has been heard in the discussion of the exceptional patient. Does he not exist at present in working-class practice—the person who is frequently and intermittently ill, the chronic invalid, and the phthisical patient—and what becomes of him? He drifts into the hospital, where certainly he is not much of an asset to the doctor or any one else. There will still be hospitals when the State insurance scheme is working, and who is so blind as not to see that there must be enormous changes and adaptations in these institutions consequent upon the scheme? These changes, too, cannot be disadvantageous to the medical profession, which has everything to gain by being set in proper co-ordination with the hospital services.

Every one will probably be prepared to admit that a "tariff service" which only provided a fee of 1s. a visit would be a sweated service, and equally every one would admit that a "capitation service" which only provided 3s. a head per annum would be a sweated service. Now, double these figures, and each service ceases to be a sweated service and becomes reasonably well paid. Evidently our prosperity will depend more upon how much we are to be paid than upon the manner in which we are to be paid.

As to the comparative merits of the two modes of payment, if we look to the very bottom of the matter we shall see that this rests absolutely upon which is the more economical scheme in working; for in the last resort the administrative expenses of the scheme must come out of the pockets of the medical profession. Three classes of people—namely, the British taxpayer, the direct beneficiaries of the scheme, and their employers—amongst them are going to find an annual sum, not a constantly fixed sum, as one correspondent has truly said, but a sum fixed from year to year. The fraction of this sum which is going to filter through to the pockets of the 32,000 medical practitioners (however and under whatever system of distribution they do their work) is going to depend on how much is spent upon administration and salaries paid to middlemen to work the scheme. The more the working of the scheme is allowed to cost, the less will be the income of the doctors and the less payment there will be "for work done."

Looked at from this fundamental point of view, a little reflection will convince any one, more than much disputation, that the worst system of all, for both community and doctors, would be (1) a monopoly worked by the friendly societies; the intermediate one would be (2) a direct tariff system between Government and doctors, in which each separate visit and ministration of any kind would have to be marked up, checked, docketed, and audited by both the Government official and the doctor, so wasting time and energy, which are the equivalents of money, on the part of both of them; and (3) the simplest and best would be a system by which the Government paid annually directly to the doctor so much for each patient on his books.

Which of these three systems are we most likely to have in actuality? It depends largely on our own ability in pointing out, as opportunity serves us, to both Government and people, within the next two years, the system which is best and most economical for both community and profession.

In conclusion, I would like to remark that I have no antipathy whatever to friendly societies. There is room for all the staffs and present equipments of them in a State sickness insurance, but they ought to be absorbed into it and become an integral part of it. Any sixfold extension of them as a State sickness insurance monopoly would be a colossal blunder in statesmanship, throwing, by its magnitude, all evils of existing monopolies into the shade, and constituting an irretrievable folly.—I am, etc.,

Birkenhead, Dec. 31st, 1910. BENJAMIN MOORE.

SIR,—Three of the letters on this subject appearing in the JOURNAL of December 31st, 1910, seem to call for a reply. Dr. Hick's letter of December 24th (which was not included with the other correspondence on this subject) I did not see until too late to answer; however, Dr. Grey's letter says all that is necessary on the point raised. Dr. Renshaw diagnoses a need for therapeutic aid in my "sense of proportion." This comes rather oddly after just commending my arithmetic. However, if Dr. Renshaw considers that the difference in principle between contract practice, where for a fixed and strictly limited fee per annum one commits oneself to an unlimited extent for medical attendance upon a state beneficiary—and private practice, where one is paid according to work actually done, "ultimately involves a distinction without an atom of difference," I can only in turn diagnose a defect in his sense of discrimination. I will leave the confirmation or refutation of both diagnoses to those of my medical brethren who have "observed the symptoms."

I am pleased to find myself at one with Dr. Renshaw on the question of medical representation in Parliament; I spoke in favour of this at the Special Representative Meeting in London in June last. Both Drs. Renshaw and Sayres doubt whether I am correct in assuming that the majority of practitioners are in favour of payment per attendance. I am not aware that I have "assumed" it, but I believe I am right in inferring it, and, at all events, I am desirous of having a vote of the whole profession on the matter and will accept the verdict.

One paragraph of Dr. Sayres reads very strangely to me. He says:

Will there not be a temptation and danger of men, anxious to develop this kind of practice, touting and advertising amongst

eople to increase their list? And it is certain that one's ncome will be at the mercy of one's popularity.

Surely this must apply with far greater force to contract practice with choice of doctor amongst the beneficiaries. Here the medical man's income does not depend on the amount and quality of the work he does but on the number of beneficiaries whom he can enrol on his list. Obviously if he be careful at the beginning of the year to examine all his beneficiaries thoroughly and exclude the unsound ones, he might have a comparatively easy time of it; but if this became the general practice, who would then look after the unhealthy ones, who will most need medical attendance?

It is surely only "practical," "sensible," and "business-like" to examine medically a candidate for insurance before accepting him, but I am afraid under a State insurance scheme based on a capitation system of payment this would not be permitted, as it would clearly defeat the main object of State sickness insurance.

Dr. Sayres also asks, "Will not the profession as a whole also annually lose a considerable sum of money by accepting payment per attendance?" They will certainly not lose as a whole if a proper fee be paid for each attendance; indeed, one great argument against payment per attendance is that it would be too costly, thereby virtually admitting that payment per capita will be less remunerative. Possibly a few of those who prefer to be paid for work they do *not* do, instead of for work actually done, may be less satisfied with the financial results of payment per attendance. The "fixed cheque every quarter" seems to have an overwhelming attraction for some medical men, however much their independence may be curtailed thereby, but I would remind these gentlemen that under State sickness insurance with payment per attendance their fees would be paid by the State, and their cheque would equally be a certainty, and would be properly proportioned to the amount of work they did.

Dr. Flemming, whose apology I heartily accept, wishes to get at the real facts on which our discussion should be based. I agree fully that we should use every effort to get at the facts, and I have been trying my best so far to do this, but it is by no means easy. We have at present very few reliable data to go upon, and that is one great reason why I do not wish the profession to commit itself to the bonds of contract practice without knowing exactly what it is doing. It will be no easy thing to release ourselves afterwards, when we find, as our German brethren have found, that we have run our heads into a noose.

Dr. Flemming still sticks to his parcel of 1,500 beneficiaries; 15,000,000 divided amongst 30,000 practitioners gives 500 apiece, which would be much nearer the real average. The probable attendance required for these, on Dr. Fothergill's estimate (which I accept provisionally, although it can only be a rough approximation), would be about 16 a day, which, estimated at 2s. 6d. each visit, gives £2 a day, or £730 a year gross, which, after deducting all professional expenses (not to mention drugs or dressings), conveyance, etc., would not leave a very munificent income for a professional man who has laid out some of the best years of his life and no small amount of capital in attaining the right and competence to earn such a living. Calculated also on this basis the 15,000,000 beneficiaries would cost the State insurance fund £21,900,000. There would also be some extras on to this, which would bring the total up probably to £25,000,000. Now, I understand the wages fund of this country is about 750 millions, and if 6d. in the £ were paid by each beneficiary, and 6d. by the employer, this would bring in 37½ millions, which, with another 6d. from the State, would make about 56 millions; this would allow 31 millions for sick pay, invalidity pay, etc.; £25,000,000 for medical attendance for 15,000,000 people is not, in my opinion, an excessive allowance, and if the work has to be done it should be paid for adequately; if we agreed to do the work per capita at 10s., we should be doing it for £7,500,000, and thus robbing the profession of hard-earned fees to the extent of £17,500,000. To my limited sense of proportion this seems rather an excessive amount to make a present of to the Exchequer when we have not even been asked to do the work on such low terms—terms which are, to my mind, not compatible with good work, and which, therefore, I oppose *in the interests of the beneficiaries*, as well as of the medical profession.

Dr. Flemming asks me how I arrive at my figure of 10 to 15 millions actual or potential paupers, and quotes *Whitaker's Almanack* to show that in 1909 there were only 1,161,000 paupers in the United Kingdom. But, as I have previously shown, besides these "destitutes" there are a large number of "indigents" to be reckoned with. According to Messrs. Rowntree and Booth's estimates there are between 10 and 15 millions of people in this country who are below the poverty line—that is, they could not contribute to the insurance fund—and sickness of the breadwinner at once constitutes them actual or practical paupers. What proportion, if any, of these will be included in a State sickness scheme I cannot say, but if they are all to be included there will be more than 15,000,000 to provide for, and what then will become of the present Poor Law medical officers? Dr. Flemming clearly overlooked these in his former calculation, and even if the Chancellor has not included any of the present incurably insane and phthisical in his 15,000,000, what about those of the 15,000,000 who will inevitably become insane or phthisical in the future, as well as others who will have to be transferred to some institution for special treatment?—presumably the State would not pay *both* the local doctor and the institution for looking after the same beneficiary. There must inevitably be *some* deduction.

Dr. Flemming's last question is rather important. He says:

> Is the Government likely to pay 3s. 6d., or even 2s., per attendance when it knows that it can get the work done or 6s. per head?

A Government which simply looks at the matter from a commercial point of view will naturally try to obtain the greatest amount of work for the lowest expenditure; but a Government that wishes to establish a system of State insurance which will be a real boon to the workers of this country, and which will meet with the hearty and loyal co-operation of the whole medical profession, by paying a fair wage for work actually performed, will look a little higher than this. As I have repeatedly said, medical attendance is a costly affair, and the only proper way to reduce the cost is to reduce the amount of attendance required—that is, by preventing sickness as far as possible; and there is absolutely no doubt that a very large amount of sickness which at present exists could be prevented, and would be if the State undertakes to foot the bill for medical attendance upon the sick workers.—I am, etc.,

Bowdon, Dec. 31st, 1910. P. R. Cooper.

Sir,—Dr. Flemming, in the Journal of December 31st, 1910, page 2047, quotes a certain deduction of mine (page 1945), based on a statement made by an actuary, that twenty-five years' returns of an invalidity scheme for *professional and business men*, go to show that the average of illness for all the beneficiaries insured had been three weeks a year each.

My deduction was: If that is so, it would be fair to say that the average number of visits to each man made by a doctor could be taken as ten during each year.

Transferring this deduction to Dr. Buist's parcel of 1,250 patients to one doctor, I stated that this would mean at least fifty visits a day. I did not include Sundays, nor did I make any allowance for the fact that the social position of Dr. Buist's parcel could not be taken as professional, but rather of a lower and therefore less healthy type. Dr. Flemming, however, goes further than he is justified, and practically suggests that I did not include in this estimate any visits made for fractures, dislocations, etc. This is a mistake, as he will see if he re-reads my letter. Using this mixture of facts, deductions, and mistakes, Dr. Flemming builds up on behalf of the Chancellor of the Exchequer a wonderful structure. He increases the grotesqueness by taking the whole population of the United Kingdom, although I am sure he well knows no scheme for such a purpose is even dreamed of.

The estimate of the probable amount of attendance on the 15,000,000 to be insured and its probable cost is better worked out in committee than in the Journal. Such an estimate would be of undoubted value to the Chancellor of the Exchequer, but should be only of academical

interest to the medical profession as such. Possibly the Poor Law Reform Committee can be induced by Dr. Flemming to attach to its report a memorandum on the subject based on facts obtainable if inquiries are made.

Any such estimate when made will only go to show, when taken in relation to actual receipts under capitation payments, the enormous amount of gratuitous self-sacrificing work at present being done by members of our profession, regardless of good report or ill report, without asking for reward, advertisement, or honour.

Those who oppose the acceptance of capitation payments from the Government say that it is time that this wrong should be put right; that the State can afford to pay for what it requires; and that it can easily bear up under the risks contingent to floating a scheme where past experience is not readily available.

The discussion of pounds, shillings, and pence is not one for the medical profession to trouble about at this juncture; and Dr. Flemming's colossal arithmetical gymnastics can only tend to obscure the real issues.

That it is a temptation to a doctor when offered a quarterly cheque to accept capitation payments all will acknowledge. But if that doctor would realize that the amount offered will have no relation to the ever-increasing demands on the services which he will be asked to render; that the State can well afford to pay current rates; and if he could count on the support of those doctors practising around him, he would refuse the bait.

Capitation payments mean paying a doctor quarterly a small portion of the money he has earned (and spreading that over a long period), *the State* retaining for itself and investing in other schemes the balance. Payment for work done means paying a doctor quarterly *all* the money he has earned; *the doctor* retaining all he does not require for immediate use and investing it in his own schemes.

Capitation payments of necessity mean that the all-absorbing and only aim of a doctor becomes one of getting money. Payment for work done means that, being sure of the money, the aim of a doctor would be to use some of it to develop his scientific knowledge and thus increase his usefulness to his profession and the State.

The object that the State has in introducing a medical section in its Invalidity scheme is to improve the moral and physical health of the nation. I would therefore suggest that the medical profession should for the moment place on one side the question of cash and rather discuss the question whether capitation payment to a doctor or payment for "work done" is more likely to prove beneficial to the community, to the beneficiaries, to the employers, and to the doctors.

Those who say that payment for "work done" is the only sound system by which it will be possible to remove the deterioration which it is understood that the State sickness and invalidity scheme proposes to accomplish are willing to do their best to prove the soundness of their arguments.—I am, etc.,

London, S.W., Dec. 31st, 1910. E. ROWLAND FOTHERGILL.

SIR,—I think most of your readers will agree with Dr. Sayres, that the opinion of three or four gentlemen with somewhat picturesque views on the subject of contract practice is no criterion of the opinion of the profession. Dr. Flemming wants to know what is about the amount of the fair average fee which the advocates for payment per attendance expect us to receive. He presumes that it would be nothing less than 2s. I cannot help doubting this. If all the present contract payments were pooled, and fees were paid on Dr. Fothergill's method, 6d. per attendance would be much nearer the mark than 2s. Under any system of pooling the medical practitioner could never get more than the medical contributions of beneficiaries, which the present club doctor always gets, that is, in the case of the ordinary friendly societies, where the doctor is paid by fees, and not by salary. In many cases, where the sickness rate happened to be low, he would get considerably less. That contract rates should be made higher all are in agreement, but I cannot see any reason why the whole of the increased contract payments should not go into the pockets of the doctor, as they do now, and altogether repudiate the notion that payments under the contract system should be based on the principle of payment for work done, as in ordinary private practice. The two kinds of work cannot be assimilated in this manner, and any attempt to do so, in my opinion, will not be a gain, but a loss to the medical practitioner.—I am, etc.,

London, N.E., Dec. 31st, 1910. MAJOR GREENWOOD.

SIR,—It seems that at last we have got a definite pronouncement from Dr. Buist. He says that he will not endeavour to obtain the real verdict of the general practitioner upon the two systems of payment—namely, that "for work done" and that "per capita"; and, also, that he will not try to obtain the carrying out of their choice, should it happen to be "for work done."

This is the point which the profession ought to know, as it is a most serious attitude for a Representative to take up.

I am very pleased to see Dr. Flemming's letter, because I feel sure it will bring forth replies which will show him that his estimate is a mistaken one. There are several self-evident points which materially alter the complexion of his case, but as they are sure to be dealt with by those better qualified than myself, I will refrain from trespassing upon your space, and only say that what we want is full discussion of the facts such as Dr. Flemming has started.—I am, etc.,

Northwich, Dec. 20th, 1910. HENRY EDWARD GOUGH.

SIR,—We are told by the advocates of a contract basis for payment under a national scheme of sickness insurance that "in the long run" the payments to the profession would be the same as with payment per attendance provided that in each case the calculation is a fair one. What, then, are we to think of the argument put forward by Dr. C. E. S. Flemming in the JOURNAL of December 31st, 1910? And he is not only a Representative of the Association, but a member of the Committee to whom this matter has been referred for report. He accepts, for purposes of argument, that "each beneficiary would, on an average, require a little over twelve visits a year," and calculates that on a payment of 2s. per attendance the cost would be too great for the Chancellor to look at; *therefore*, as "the practicability of the scheme" is the "question at issue," we must be prepared to accept a capitation payment which would remunerate the doctor at the rate of 6d. or 8d. a visit.

Is this the national standard which our Representatives think fair for the remuneration of professional work? Can the advocates of contract practice any longer say that they are not offering the Government the bait of cheapness?

If the cost with a fair basis of remuneration, whether per capita or per attendance, is enormous, that is the Government's business, and they must decide how much they can afford to buy at an agreed price; but the least we can expect of our Representatives is that they shall not connive at the exploitation of the profession.—I am, etc.,

Westbury-on-Trym, Jan. 2nd. THOS. M. CARTER.

SIR,—I heartily agree with Dr. Renshaw in deprecating the complicating of this subject with unnecessary questions, details, and side-issues, such, for example, as his own contribution to embarrassment—"the necessity of a fixed sum being budgeted for each year." There happens to be no such necessity, and, if there were, it does not concern the medical profession, but the Chancellor of the Exchequer. Dr. Renshaw's referendum question, also, is most unfortunately chosen. I agree with him that possibly the majority of the profession might be so misled as to imagine that this was a fair question easily answered, and I regret the necessity of dissecting it. As Dr. Renshaw puts it, it reads: "Would you, in consideration of an advance of 150 per cent. on your club remuneration, be content to put up with the contract system?" I read it differently. Much has been said as to what the State will do and will not do. It has been affirmed that the State will not do what it ought to do, and will do what it has no right to do; but I think we may be certain that one thing the State will not do is to pay by contract for the services it requires a greater price than it can buy them at in the open market, so that I regard the bait of a 10s. or 25s. capitation grant as wholly fraudulent. If the State decided to give such a grant, it would be because it intended to exact a *quid pro quo*—that is to say, that a 150 per cent. increase in

contract pay would mean a 150 or 200 per cent. increase in the work formerly done for the original figure.

Dr. Flemming continues the argument started by Dr. Buist a few weeks ago, and supports his contention with suppositions which are singly improbable and collectively impossible, though I absolve him of the authorship of these suppositions. This again I maintain is a side-track. In the total absence of any reliable statistics of the incidence of sickness amongst all ages and classes and sexes of the community, it is as futile to try to calculate what would be an adequate capitation fee as to try to calculate the number of attendances that would be required by any "parcel" of patients, more especially as the number of attendances would vary not only with the actual sick need but with various extraneous and incalculable factors. Even accepting, however, Dr. Flemming's gage of battle, I am not greatly elated at his picture of the halcyon days in store for us. £1,825, less the expenses of running such a practice (Dr. Flemming ought to know the difference between gross and net income), seems to me a paltry return to the phenomenon who is intellectually and physically capable of paying 50 visits with their proportion of surgery attendances, confinements, operations, etc., *every day in the year*. If this is the reward of almost superhuman mental and bodily vigour and endurance, what might the average practitioner expect to obtain?

Dr. Sayres scores one of the two real points of advantage in the contract system—the comparative fixity of income (much lessened under the Association's contract scheme). We admit there is a good deal to be said for this and for the other advantage of being beyond the unjust suspicion of paying visits to reap fees, but I would ask Dr. Sayres whether the first advantage is not largely magnified by the existence of a large class of the population which habitually exploits the doctor by cadging at low fees or leaving bills unpaid. This class will shortly be abolished by State insurance, and the advantage of fixity of income, such as it is and will then be, may be discounted by taking one year with another after the manner of the capitationists who insist that by taking one patient with another the average grant pays for all.

But leaving aside these side-issues, let me state once more what to my mind is the real issue before us. It is not a choice between one method of payment and another, nor between the chances of obtaining better remuneration by one method than another; nor is it a question of what is easiest for the State to institute. The real issue is whether the profession will maintain in its integrity the freedom of the general practitioner—a freedom which has been greatly curtailed by the system of contract practice, not, as some say, by the abuses of contract practice, but by the contract itself. Coincidently contract practice has introduced sweating, inadequate remuneration, and other abuses, but these are not essentials of the contract or club system, and might, had the profession been united enough, have been remedied long ago without destroying the contract system. It is primarily the contract itself to which I object, and which I should have thought this individualistic country would have found no defenders of. Shall we be free, and shall our patients be free, to manage our and their transactions in our own way—the universal way in which all business is done in this country? Or shall we add to our legitimate business of healing the business of speculative insurance with restrictions and bonds, higglings and arbitrations? The individual transaction, which is the essence of private practice, leaves patient and doctor—buyer and seller—absolutely free; contracts, fair or unfair, destroy this freedom, and introduce an element of suspicion on both sides. Medical practice, moreover, is of a nature to lend itself least to such a system; its harassing nature, overtime, and night-calls, etc., are partially compensated or glossed over by the satisfaction of direct and proportionate reward, and we have not yet all arrived at the altruistic mind which can see in an unreasonable and unseasonable call nothing but a welcome opportunity—better late than never—of relieving suffering humanity.

Let us make quite sure that the contract system is superior in every respect, and from the point of view of all parties—doctors, patients, the science of medicine, and the good of the community—to private practice, which is chosen by all who are in a position to do so, before we cast our vote in its favour. Contract heretofore has been unavoidable; in face of the State proposals it is now no longer either necessary or reasonable.—I am, etc.,

Bristol, Jan. 2nd. HARRY GREY.

SIR,—Will you allow me to thank Dr. Grey for his letter? In spite of it, however, I feel that we country practitioners are in parlous case. Dr. Grey says: "The tariff of fees which the Association will, I hope, fight for . . . will ensure . . . adequate fees and adequate mileage." Well, we have just had an example of what the Association considers adequate for country practitioners in this Division. In the matter of the treatment of school children, I attended at some inconvenience a meeting of the Branch; the preliminary arrangements were discussed, but no question of fees. I further attended a meeting of the county Division; again no fees mentioned. Now we have a scheme sent down for our approval which gives me half a guinea for chloroform, half a guinea for operation on adenoids and tonsils, with three after-visits. This works out at half a crown a visit, anywhere, no mileage; as my district extends six or seven miles in each direction, it seems to me that the Association's tariff compares unfavourably with that of the National Deposit Friendly Society. As for twenty years the Poor Law guardians have given us a guinea for the administration of an anaesthetic, and now the Association says that is too much and we must ask half a guinea, one can only say, "Save me from my friends."—I am, etc.,

New Romney, Jan. 1st. HENRY HICK.

THE CHOLERA IN MADEIRA.

SIR,—It has occurred to me that your readers may be interested to hear something of the present state of affairs in Madeira.

The epidemic of Asiatic cholera from which we are now suffering is believed to have been brought here by Russian emigrants on a ship bound for South America, and it has been amongst us for upwards of three months.

From a medical standpoint it has many interesting features. In October the mortality among those attacked was over 50 per cent., but it has now fallen to a mere 25 per cent. in many districts, and there is much evidence to show that the virus is becoming attenuated. The mortality for the whole outbreak up to date is about 33 per cent., the actual figures being 565 cases, with 197 deaths. Of these, 250 cases occurred in Funchal, the capital, with 95 deaths. Here the disease is now well under control, but in many of the country districts it is raging.

The above figures do not include the neighbouring island of Porto Santo, where the disease never reached serious proportions, and has apparently been stamped out. In the town of Funchal the disease has also been practically stamped out, thanks to the energetic action of the local authorities. The great obstacle to a control of the epidemic elsewhere is the amazing ignorance of the peasantry, many of whom believe that the disease has been deliberately imported by the doctors for political purposes, and in the face of popular ignorance and superstition the authorities have been powerless to enforce sanitary precautions.

The temporary isolation hospitals at several places have been attacked, and at one place actually burnt; there has also been some bloodshed. The worst feature of the whole affair has been the utterly inexcusable way in which the central authorities at Lisbon have ignored all appeals for assistance during the last month.

The place has run out of antiseptics, thanks to the negligence of the Republican Government, and there are only 90 dependable troops in the island, who are quite inadequate to enforce sanitary measures outside of Funchal.

The disease is limited to the lower strata of the native population. Of the English resident community not a single person has been so far attacked by cholera, and this is in large part due to the wise and well-considered leaflet which was sent round to the British residents by my colleague, Dr. Grabham, in which he gives in terse and simple language all the more essential prophylactic measures.

The medical officer in charge of the principal isolation hospital, or lazaretto, has done heroic work, and his

mortality statistics compare favourably with any other in the island. All the isolation hospitals are hampered by lack of personnel and equipment.

That the disease has been so far successfully combated in Funchal is due to the energetic and sensible measures carried out by His Excellency the Civil Governor and the distinguished Lisbon bacteriologist, Dr. Carlos Monteiro. The political situation is becoming daily worse, owing to the apathy of the Lisbon Government and the complete stagnation of all industries.

Hoping this brief account may be of some interest to your readers, I am, etc.,

Funchal, Madeira, Dec. 12th, 1910. HENRY STEVENS.

"EYE" IN SPORT.

SIR,—In the JOURNAL of December 24th, 1910, a report is given of Mr. Doyne's lecture on "Eye" in Sport. Mr. Doyne makes several excellent points, approaches the subject in so magnanimous a spirit, and so obviously invites criticism that I hope you will allow me to take up his challenge. He recognizes that in many instances the binocular vision of the sportsman is what Hering called "cyclopean"—that he sees from a point midway between the eyes—but he says nothing with regard to the muscular sense which undoubtedly often plays an important part in accurately directing movements in relation to external objects as a help, or even independently, of the sense of vision. Mr. Doyne has himself supplied a most excellent example in pointing out that in fencing touch is more important than eye. Personally I should have been inclined to modify this statement and to have said that in defence the muscular sense—Mr. Doyne's sense of touch—is of supreme importance, while "eye" is of relatively great value in attack and could not be dispensed with. Muscular sense must also play an important part in the instances quoted from cricket, golf, tennis, and billiards.

It is, however, in what he says with regard to shooting that Mr. Doyne lays himself most open to criticism. Many—perhaps most—good shots are quite unconscious of what they do when they shoot at a moving object. It is to such as these that Mr. Doyne has apparently applied for information. Just as many of our habitual actions are performed "subconsciously" without our formulating ideas in connexion with each consecutive movement in a complex habitual action, so in most cases is the action of shooting at a moving object with a shotgun performed. When one is in perfect health and has had plenty of recent practice, "the mind should not be concerned consciously with the position of the gun," as Mr. Doyne very rightly says. But no one can learn to shoot thus or make any real improvement in his shooting.

Mr. Doyne doubtless does not mean us to take literally his statement that "your gun should subconsciously feel the line of vision and swing in front of the bird as you fire." This is attributing a muscular sense to the gun. Mr. Doyne is subconsciously assuming that muscular sense plays the most important part in correct shooting. I think he is wrong. His instances of what different men do in shooting really include but two small classes, and the most numerous is ignored. He says that some men deliberately align at a fixed point beyond the moving object and then pull the trigger. Others fix their eyes on the object and bring up the gun without ever thinking of its position or alignment.

Now, I contend that the majority do consciously or subconsciously what I do myself. The gun is brought up, both eyes being open, and without its movement being checked when aligned with the moving object it is swung past it in the direction in which the object is moving. Still without the movement of the gun being checked, the trigger is pulled. When in good form one does this subconsciously. Some men, when they are shooting badly, are able to pull themselves together to some extent and do this consciously. Others who have learnt to do it without realizing the details cannot pull themselves together. There is, of course, no doubt as to the value of the two eyes in judging distance in shotgun shooting, but binocular vision has another value, which Mr. Doyne has missed. This may be demonstrated by a very simple experiment. Mr. Doyne admits the existence of the master eye. We will suppose the right eye to be the master eye. Take a piece of cardboard in the *left* hand and a ruler or some similar straight object in the right. Choose some object at a distance at which to aim. Bring the piece of cardboard at arm's length between the *right* eye and the object aimed at, leaving the object still visible to the left eye. Then align the ruler from close to the right eye (that is, proximal to the cardboard) at the object aimed at. Remove the cardboard and see whether the ruler is aligned with the object. With a very little practice this can be done correctly every time, though the object is not visible to the aligning eye. The value of this power is very obvious, for frequently the false breech or same other part of the gun must come between the aligning eye and the object shot at, though it is visible to the other eye. Although the length of the column of shot at 20 or 30 yards from the gun is such that a comparatively large error in alignment may not produce a miss, still this permissible error is not large enough to allow of a sufficiently correct aim without a very definite alignment of the gun, conscious or subconscious.

With regard to "people who shoot rabbits from the hip," I wonder whether Mr. Doyne has ever seen this done. I have. It is an experience the repetition of which I always seek to avoid. I have never seen it done except at *very short range and in cover*. I am sure it could not be done at even a moderate range. It is analogous to true "snap shooting," which depends largely on muscular sense. I willingly admit that what Mr. Doyne says is the correct way to shoot is an important factor, assisted by muscular sense, in successful snap shooting, of which the most skilful examples I have seen have been keepers shooting at rabbits, but I claim that it plays no part in the making difficult shots at fast moving objects in the open at even a moderate range.—I am, etc.,

Glasgow, Dec. 27th, 1910. CHARLES WALKER.

SIR,—In Mr. Doyne's extremely interesting lecture published in the JOURNAL of December 24th, 1910, the correct judgement of binocular impressions is held to be the dominating factor upon which success in sport depends. No allusion is made by way of illustration to the difficulty experienced by "duffers" in performing movements that are not related to impressions from the outer world, and no adequate explanation is given of failure in a sport which depends on ocular impression of such a simple order as to be incapable of misinterpretation.

In dancing no appeal is made to the judgement of external stimuli, the nature of the movements required is fully understood, and yet persons vary widely in their ability to execute a complicated step. The ocular impressions to be interpreted when attempts are made to knock a cocoanut off a stick at a known distance are not complex, and yet one man will succeed each time whilst another will fail nine times out of ten. Failure in both these instances obviously arises from the inability of the muscles to construe aright the explicit instructions of a fully-informed intelligence. Again, in golf, where the object struck at is fixed, the brain judgement of ocular impressions insisted upon by Mr. Doyne must be a very simple process, and missing or topping may with greater probability be attributed to muscular incoordination rather than to a faulty estimate of the length of the club and the distance of the ball. The extreme complexity of the impressions to be interpreted in shooting at birds on the wing renders it difficult to assess the relative influences of defective judgement and defective co-ordination in the production of a "bad shot." At the same time co-ordination must count, and there is much to be said for the view that failure in the complex sports of shooting, cricket, and tennis, as in the simpler sport of golf, is more often due to explosive muscular movements which exceed and do not correspond with the intention of the brain, than to errors in the judgement of stimuli received through the organs of sense.

Upon this hypothesis, "eye" in sport resides neither in the anatomical eye nor in those parts of the brain which interpret sense impressions. The key of the situation is rather to be sought in the centres of muscular co-ordination, and if a choice is to be made between two loose expressions, the term "hands" is to be preferred to the term "eye."—I am, etc.,

December 25th, 1910. HANDS.

ALCOHOLISM AND DEGENERACY.

SIR,—I am afraid little real knowledge is likely to arise from a continuance of the controversy with Sir Victor Horsley. I asked him "to condescend to discuss points in a logical and scientific manner, such as befits the pages of a scientific journal." His method of reply, I hold, is absolutely identical with that of his speech at the temperance breakfast in July, or his contribution to the September number of the *National Temperance Quarterly*—that is to say, none of his remarks are, in my opinion, "serious treatment" of our memoir, nor are they in the least scientific investigations. They are intended for an outside audience, which swallows without analysis whatever is placed before it. Clearly, when Sir Victor says one thing—namely, that his post-prandial oration was a serious scientific treatment of our memoir—and I assert that it was not, there is no room for further argument. The reader, as I hope he will, must consult the originals—our memoirs and Sir Victor's—or else he must weigh his experience of the scientific accuracy of Sir Victor and myself.

I think my words cited by Sir Victor Horsley—namely, that our memoir has been "subjected to much biassed criticism to which it would be pure waste of time and energy to reply"—will be found fully substantiated by those who will take the trouble to study the papers of Dr. Saleeby, Sir Victor Horsley, and Sir T. P. Whittaker, to say nothing of that of the gentleman who accuses us of making shipwreck of both the facts and method of science because a drug like alcohol is "entwined (!) round the sensuous side of our natures," and we therefore devote ourselves to the "defence of our drug indulgence"! To meet such people the well-known case of Betsy Martin is the only possible form of argument. But I should like once more to define my position, although I have very little hope that Sir Victor will condescend to the level of a simple and straightforward reply.

He accuses us of professing to divide parents into "alcoholic" and "non-alcoholic," and thereby deceiving the public. Our classification was accurately described in our memoir. It amounted—because the abstainers in a general population form such a relatively small class—to bracketting for *certain* statistical purposes the teetotalers with the parents reported sober by police, employers, and district visitors. But in our tables the whole of the data are classed under the headings of "teetotaler," "sober," "suspected of drinking," "drinks," and "bouts." It was perfectly open to Sir Victor Horsley at once to refute us by proving that the teetotalers showed a higher percentage of good health and good intelligence in their offspring than the sober or drinking parents. Why has he not done so? Here are the actual facts of the case taken from the tables in our memoir; in each series the total offspring are over 1,000:

Series.	Teetotaler.	Sober.	Drink Suspected.	Drinks.	Bouts.
I. *Father.* Percentage of quite healthy offspring ...	28.5	32.1	40.0	31.8	28.1
II. *Mother.* Percentage of quite healthy offspring ...	25.0	30 5	39.3	32.7	22.9
III. *Father.* Percentage of dull and mentally defective offspring	15.6	19.2	25.8	18 4	16.1
IV. *Mother.* Percentage of dull and mentally defective offspring	25.0	17 5	22 6	19 5	21.6

Now in every case but one—that of the influence on intelligence of the teetotal father—the sober parent gives a better result than the teetotaler. Thus, in combining the sober with the teetotaler groups in our text—not in our tables—we actually *bettered* the argument for the non-alcoholic. And in the corresponding case to that exception the teetotal mother gives not only more mental defect than the sober mother, but more than any of the drinking groups. From this material we did *not* draw the deduction that the result was "in favour of alcoholism"—those words are put into our mouths by Sir Victor—but that there was no *marked* relation between alcohol in the parent and the mentality and physique of the offspring *as children*. Any one who will trouble to look at the above numbers will see that this conclusion is entirely justified. We even gave an explanation of the matter which we still believe to be valid—namely, that the stronger and more virile parents took alcohol, and because of their physique, not because of their alcohol, had healthier children. These are the numbers contained in our memoir, and such are the numbers I have asked Sir Victor Horsley to face. How does he do it? First, by a vague statement, which he has repeated several times, that we "are gravely misleading the press and the public," because our memoir "nowhere contains figures and data for a group of non-alcoholics," and contrasts them with alcoholics. I think we might fairly retort that it is somebody else who is attempting gravely to mislead the press and the public!

As a second string to his bow, Sir Victor has frequently asserted, following the lead of Dr. Saleeby, that we have not ascertained whether the alcohol or the conception of the offspring came first, and it pleases him to assert that our memoir does not contain any figures showing whether the children were born after the parents began taking alcohol or before. Of course it does contain such figures, and what Sir Victor is confessing is only that he is constitutionally or by training incapable of interpreting them. To bring this point to a head, I asked him two questions, neither of which he seems able to answer. I repeat them again here:

My first question was, Why he quotes Dr. MacNicholl, who has omitted to ascertain this fact? His only answer is that Dr. MacNicholl's work is not a "make-believe," but may be justly regarded as a "toxicological research." That is no answer at all. There is also demonstrable evidence (1) that Dr. MacNicholl did not know the state of his parents at the time of the conception of their offspring; (2) that he has not separated his parents into those who are genuinely alcoholic and non-alcoholic; and (3) that the whole of his work, judged by any one with statistical knowledge, is perfectly idle. My criticism is not here of Dr. MacNicholl; that criticism any one can read in the second memoir[1] on parental alcoholism by Miss Elderton and myself. It is a criticism of Sir Victor, who applies a test to us which he fails entirely to apply to the wholly worthless statistical evidence which Dr. Sturge and he have collected in their book on *Alcoholism and the Human Body*.

Sir Victor Horsley says I have raised the question of Dr. MacNicoll to withdraw attention from fundamental flaws in our memoir. On the contrary, I directed attention to him in order to riddle the sort of statement which Sir Victor raises as an argument. Whether the bulk of the alcoholic parents were or were not alcoholic at the conception of their offspring cannot be ascertained from Dr. MacNicholl's figures, because he gives no children's ages; but it can be ascertained from our figures, and my second question to Sir Victor Horsley was a request that he should face those figures and tell us where the group of parents whose alcoholism affects their offspring (and he asserts confidently that such a group exists) really lies among the five classes I have given above. If it does not tangibly exist among 1,200 children taken as a random sample of a population, it can hardly be producing the enormous evil he attributes to it. But if the bulk of the alcoholic become so during the lives of their offspring as children, why do the alcoholic parents have relatively more *younger* children? Sir Victor merely answers this question by saying that our statement is "conjecture," and repeating his pernicious habit of citing a few words taken out of a long sentence. My statement was perfectly definite—namely, that the alcoholic parents had a relatively larger number of young children. I gave him the actual numbers. Children between 5 and 7 are for the alcoholic 30 per cent. of the total, as against 27 per cent. for the sober, and that the ratio of children of 5 to 7 to those between 12 and 14 is for *both* sober and alcoholic 1.6 to 1. I ask Sir Victor Horsley once more to explain how those numbers are compatible with a large change of any kind from sobriety to alcoholism going on during the lives of the children. It is these numbers (which Sir Victor can verify for himself, not any

[1] *A Second Study of Parental Alcoholism.* Dulau and Co., Soho Square.

"conjecture" which he has manufactured himself by taking a hypothetical sentence out of the lines which preceded and followed it) which I call upon him to explain. Until he does so I am compelled to look sadly upon him as possibly an effective temperance orator but as a man now lost to science.—I am, etc.,

Hampstead, Dec. 31st, 1910. KARL PEARSON.

THE BRADSHAW LECTURE ON CANCER.

SIR,—Any opinion on the subject of carcinoma uttered by Mr. Butlin cannot but arrest attention. So that when he definitely commits himself to the conviction that the statement that carcinoma is a parasitic disease stands outside the pale of argument attention at once becomes acute. It appears to me to be a bold venture, and an assertion which should not be allowed to pass without question, for reasons which follow. In the first place it is a statement, and nothing more, of his belief; and, though supported by a wide practical experience, it is entirely unsupported by any reasoned argument, and furnished with no experimental evidence that can give it weight.

Koch has laid down laws regulating evidence from which, so far as I am aware, there has yet been no appeal. Lest we forget them in the course of prosecuting our scientific researches, it may be useful to restate them:

> A specific micro-organism must be constantly associated with a given disease; it must be isolable and studiable apart from the disease, and when introduced into a healthy animal it must be able to reproduce the disease in that animal; and in the animal in which the disease has thus been experimentally reproduced the organism must be found under the original conditions.

I would humbly ask, Has Mr. Butlin found a protozoon constantly associated with carcinomata, isolated, and studied it—apart from the disease, and in other respects conformed to Koch's laws? If not—and evidence on this point is lacking—I would, with all respect, submit that he has not made out his case. Again, the hypothesis of Hauser, which Mr. Butlin tremblingly espouses, fascinating though it is, does it rest upon any sounder experimental basis than the foregoing? If not, what measure of conviction as a *causa causans* of carcinoma can it carry?

That carcinoma should owe its origin to a parasite which by confession cannot have intruded itself into the system from without, but in "some manner" has been created within, appears, I confess, to be but "the stuff that dreams are made of." It is not hereby confessed that any part of my creed is to belittle the general conviction of the widespread existence of parasites, nor to trifle with the misfortune awaiting the enormous mortality to which all organic life is indebted to its baleful activity. But that the accidental association of, perhaps, a spirochaete, the ova of bilharzia, micrococci, amoeba, *et id genus omne*, with a particular form of disease of whatever kind, can be warrant for the conclusion that such association is one of cause and effect is a position I could not subscribe to without further evidence than the circumstance furnishes.

Meanwhile I think it behoves us to guard against any statement which may savour of extravagance in all that pertains to malignant disease.—I am, etc.,

London, W., Dec. 31st, 1910. FREDK. W. WRIGHT.

SIR,—The statements contained in my former letter to you refer to cancer *in man;* Mr. Wright's statements refer to cancer *in rodents*. As Aristotle says: "There is a certain size in things, and beyond that size the thing becomes something else." However interesting the investigation of cancer in mice, rats, guinea-pigs may be to the veterinary surgeon, "that earnest and energetic body of inquirers who are trying to unravel the tangled skein of the cancer question" have certainly told us nothing concerning cancer *in man* that we did not already know, either in respect to its etiology, structure, mode of spreading, prevention, mitigation, or cure. In fact, one of their observations, that irritation has no etiological significance, is directly opposed to clinical experience. To cite one of the numerous instances, cancer of the cervix uteri has never been known to occur in a virgin! Further, I demur to the statement that a cancer can evolve (?) into a sarcoma. No epithelial cell can change into a connective tissue cell. What Mr. Wright probably means is that the mesoblastic stroma can originate a sarcoma. But the stroma is not an essential part of a carcinoma, for it no more belongs to the structure of a carcinoma than the earth enveloping the roots of a tree belongs to the structure of the tree. In conclusion, allow me to express the opinion that had some of the many thousands of pounds subscribed by the public been applied to the collection of clinical data, the results would not have been so barren.—I am, etc.,

London, W., Jan. 1st. KENNETH CAMPBELL.

SIR,—Mr. F. W. Wright, in his letter published on December 24th, 1910, assumes, I suppose rightly, that the "Cancer Commissioners" referred to in Mr. Campbell's letter are the staff of the Imperial Cancer Research Fund. He very rightly draws attention to the valuable work they have done, but he entirely overlooks the fact that practically all the instances he quotes were of the nature of confirmation of the work of others, and so he unintentionally deprives these others of the credit due to them, which I am sure would not be the wish of Dr. Bashford and his associates.

The fact that some malignant growths can be inoculated from animal to animal of the same species was shown by Moreau[1] in the first instance, before the Imperial Cancer Research Fund existed. He was closely followed by Borrel. Then came Leo Loeb (1901) and Jensen (1902). Bridré and Ehrlich subsequently added considerably to our knowledge of this phenomenon.

That the disappearance of a malignant new growth "exerts an inhibitive, even an immunizing, influence on the body fluids of the recipient" was first shown by Gaylord, Clowes, and Baeslack, in that the mice treated by them with the serum of mice that had spontaneously recovered from cancer were less susceptible to inoculation than mice that had not been treated.

That "the resisting power against the incidence of cancer to a given animal may be greatly strengthened by the inoculation under its skin of various specific body tissues" was shown by Borrel (1905), Ehrlich (1906), and Bashford (1906–7). "Natural and induced resistance of mice to the growth of cancer" might practically be taken under this and the preceding heading.

"That most recent achievement, the patient tracing of the evolution of a carcinoma into a mixed tumour first and then into a round-celled sarcoma in the second place," was first accomplished by Ehrlich in 1906 or 1907 (I quote this date from memory) with a very malignant carcinoma which I have, through his kindness, had in my laboratory since that time.—I am, etc.,

Glasgow, Dec. 27th, 1910. CHARLES WALKER.

SHIP SURGEONS.

SIR,—At this end of the world one gets one's JOURNAL somewhat stale, so only to-day do I receive the issue of October 15th, 1910, containing a letter from Dr. Rentoul on the subject of sea medical service. I am glad to see that Dr. Rentoul advocates the method of improving the ship doctor's position by means of collecting fees for medical attendance from those passengers who benefit thereby rather than by demanding increased salaries from the ship owner.

Passengers in the first and second saloons are now informed in the Orient Company's circulars that the medical officers are empowered to charge fees for their services according to an authorized scale. Unlike the practice on the Western Ocean, no mention is made of constituting the commander an appeal court, but should the occasion arise, it would undoubtedly, in case of dispute, fall to the lot of the commander to act as friendly arbitrator.

The scale is a very low one, but it is urged that a doctor at sea, who has not to keep up a highly-rented house, who receives free board, and who has no expense of transport, should not expect to receive fees equivalent to those charged ashore. Be that as it may, so long as the principle is established that passengers are no longer to expect at sea—any more than on shore—free medical attention, the scale of fees is for the moment of secondary importance. Certain exceptions are made to the rule of charging: in the event of a surgeon attending a patient in

[1] *Comptes Rendus Acad. Sciences*, 1893; *Arch. gen. médecine et anat. path.*, 1894.

his capacity of medical officer of the ship rather than in that of medical practitioner, free treatment is given. Such cases would be of the nature of infectious disease and accident "due to the ship."

I have now had some experience of the working of this scheme. Since the public has for years been taught to accept medical service for nothing, it is idle to suppose that the present alteration will not be resented by some, and the ship surgeon will at first be called on to exercise very great moderation and tact as well as considerable forbearance. But after a time the condition will be regarded as established, and passengers will pay their medical accounts as a matter of course. The main obstacle to reform lies among ourselves. Like Dr. Rentoul, I know of the medical man who is "out on the make," and of the man who is always prating of the dignity of the profession—a dignity which his personal qualifications fail to attach to himself. It is such men who may retard the path of progress. In my experience of the working of this scheme I have found very little resentment, while a great number of passengers realize that through it they are likely to receive much better attention at the hands of a much better equipped class of men who will remain at sea for the work and not for the "fun." In addition, I have found that my work has decreased fully 50 per cent. owing to the cessation of the trivial and unnecessary call. I think I am right in stating that the Orient Company's plan goes further than that in force on the Western Ocean; it embraces all sickness occurring on the ship. On the Western Ocean I believe it is only in cases where the illness has been "brought on board" that the right to charge has been conceded. In conclusion, may I express the hope that a special committee of the British Medical Association will devote its efforts to an adoption by the various lines of a system similar to that now experimentally in force on the Orient Line rather than to an attempt to coerce owners in favour of an increased salary?—I am, etc.,

Sydney, Nov. 22nd, 1910. P. HEYWOOD HADFIELD.

DR. HADWEN AND THE "CRIMSON CROSS REMEDIES."

SIR,—In a letter occupying the major part of two columns of the JOURNAL on December 31st, 1910, Dr. Hadwen complains that this correspondence has trespassed far too much upon your valuable space. Including that letter, his share of the trespass was 57½ in. as against 29 in. of mine. Any undue prolongation is also owing to his persistent evasions of my questions in the early stages of the correspondence.

His references to my correspondence with Miss Kidd (Secretary of the National Union for the Abolition of Vivisection) are most unfortunate for him. In the first place, I have had no correspondence with Miss Kidd, as he alleges, on the subject of vivisection, except a casual reference to Dr. Hadwen. Miss Kidd addressed one or two letters in 1908 to a correspondent who obtained permission to forward them to me. These had reference to a pamphlet on vaccination, but were chiefly occupied with an abusive attack on the medical profession, such as one would expect from an official who finds so much favour with Dr. Hadwen. Miss Kidd alleged that medical men were guided and actuated in their actions by the meanest possible motives. Of course, Dr. Hadwen was excepted and set apart from the rest as a sort of paragon standing alone in all his glory! I replied to this kind of thing and did not discuss vivisection with her, except her cruel vivisection of the medical profession. Dr. Hadwen is quite familiar with the whole of that correspondence, and saw it two years ago. One of my letters contained this sentence: "If Dr. Hadwen desires to challenge me on the subject of vaccination I am prepared to reply to any communication he may address to me direct on the subject." Dr. Hadwen quotes from that same letter in his reply on December 31st, 1910, but he carefully avoids quoting the above sentence, which was specifically stated to be my answer to an inquiry from Miss Kidd. This is manifestly unfair, because Dr. Hadwen pretends to give my answer. A fortnight earlier he practically denied that I had sent Miss Kidd the above message. In repeating that I had done so I was guilty of "numerous reckless assertions." He wrote: "I know of no one who has received such a message. No such message has ever been conveyed to me." Now on the 31st he admits he received the message two years ago, and that he replied to Miss Kidd, but not to me. Out of this very incident Dr. Hadwen sought to convict me of lying on December 17th. His later letter proves which of us was telling the truth, and that it was not Dr. Hadwen. I do not intend to allow him to mutilate my letters for his own purposes without exposure. So much for my supposed lack of truthfulness. Another glaring breach of controversial fairness occurs in the same letter. He speaks of what he calls the "strange lack of logic which characterizes him" (myself). How does he attempt to prove this? He takes a sentence from one of my letters, chops it in two, and puts in a full stop where no stop occurs, or is permissible. If he had quoted the whole sentence (to which surely I am entitled) no lack of logic appears. These are methods which I have shown up in many other champions of the anti- unions or leagues.

The attempt to score off me by such unworthy methods might have served Dr. Hadwen's purpose before the anti-assemblies he delights to address. He must have forgotten for the moment that he was addressing an audience on this occasion which cannot be bluffed by these devices.

He charges me with having my tongue in my cheek when on December 24th I said I would meet him in debate (obviously on vaccination) before any medical society if he cared to make the necessary arrangements.

This was merely in reply to his suggestion on the 17th. The idea of a medical meeting originated with him in this correspondence. Where was his tongue then? That disposes of his attempt to show that I am lacking in sincerity.

Taking Dr. Hadwen's first point last, I find he poses as the King Solomon of the medical profession, doubtless in the full belief that his wisdom exceeds that of all the other kings. I am the Queen of Sheba; at least according to his mixed simile I am "unlike" and "like" the Queen of Sheba. I believe Dr. Hadwen has some claim to be a specialist on the Scriptures with which he often illuminates his addresses. He is utterly mistaken in supposing that he has knocked the spirit out of me, as the other Solomon did by his answers to the Queen of Sheba. The idea is preposterous.

This correspondence arose out of an advertisement of the Crimson Cross Remedies in which Dr. Hadwen's name appeared for six or seven months conspicuously on the cover of the *Vaccination Inquirer*. I am inclined to believe that Dr. Hadwen will have each of those copies close to his hands. He says he has never seen the advertisement, even at this late stage of the controversy. Why has he preferred to remain in simple innocence? The circumstances of the withdrawal of Dr. Hadwen's name leave no doubt as to the reason for the withdrawal, although Dr. Hadwen may not have been responsible. I have no doubt he has guessed the reason, but he protests he does not "know." His strange lack of interest in these two points is rather transparent.—I am, etc.,

Halifax, Jan. 2nd. ARTHUR DRURY.

*** This correspondence has drifted away from the original issue, and, we think, may now cease—unless Dr. Hadwen has anything in the way of a rectification of fact to bring forward.

THE CAUSE OF APPENDICITIS.

SIR,—The inadequate nature of the factors invoked by your correspondents to account for the modern prevalence of appendicitis has enabled Dr. Mercier to indulge in a gentle vein of satire[1] which has agreeably varied the interest of the discussion. But how are we to interpret Dr. Mercier's added suggestion? "Not only," states the writer, "has our consumption of meat enormously increased, but our consumption of alcohol has enormously diminished within the same time. Whatever pernicious influence alcohol may exert on the human body, its bactericidal power cannot be contested." Surely we may answer Dr. Mercier, it is somewhat reckless and uncritical to assert or imply that the habitual use of alcohol diminishes the general tendency to suppurative processes.

Why has no appeal been hitherto made to the evolutionary, ancestral, or palaeogenetic order of etiological ideas? Why not invoke the factor of defective or retarded

[1] BRITISH MEDICAL JOURNAL, December 24th, 1910, p. 2002.

adaptation? We would have analogy to help us—the analogy of other organs and functions. When, owing to the exigencies of modern life, the higher nervous faculties, and especially the centres of association, fail to respond to the demands of the life of relation, there is more or less organic impairment; when the lung falters in the task of extracting a sufficient amount of oxygen from the vitiated air of crowded surroundings, its weakest segment—one or other apex most often—will break down; when the liver is subjected to strain from intemperance and defective dieting, it displays its distress by temporary assimilative inadequacy or permanent cirrhosis; and when the nutritive disassimilative processes are defective and excessive the organs of excretion are destroyed. Will not the same reasoning apply to the appendix—a vestigial but integral part of the absorption tract? Woods Hutchinson, in his *Human and Comparative Pathology*, p. 45, says, in speaking of appendicitis:

> As soon as we compare the singular state of affairs (of the caeco-appendix) in the human species with the various developments of this region in the other mammalia, the problem is at least set in a fair way toward solution. The first thing that strikes us about the caecum is its extraordinary variability in different species. . . . It appears as if Nature (Flower) increased the absorptive surface of the canal by either distending the stomach or by dilating and elongating a blind pouch toward the lower part of the canal. In the carnivora the caecum is small and imperfect . . . and the general opinion among morphologists is that the carnivorous caecum is to be regarded as an extremely reduced form of a somewhat fuller ancestral type. In the dog many stages of its recession can be seen, even including . . . the development of an apparent appendix . . . although the only species which possess a distinct appendix are the wombat, the anthropoid apes, and man.

"What suggestions, then," continues Woods Hutchinson, "may we gather from the review of the history of the appendix as to its probable disease liabilities? That the human appendix is a structure, not only

> . . . degenerate, but actually undergoing further atrophy . . . and that we should therefore expect to find it a point of least resistance in the food tube."

Dr. Maclachlan thinks this point (BRITISH MEDICAL JOURNAL, December 3rd, 1910, p. 1823) is one of least resistance to tuberculous factors; others incriminate the rheumatic tendency. Poncet of Lyons would probably conciliate these apparently conflicting views by claiming the morbid tendency in question for his diathesis of "rhumatisme tuberculeux."

This means tissues in a more or less vulnerable condition. But it also means a certain width in the range of possibly injurious agents.

The biologist I have been quoting looks upon the actual attack of appendicitis as an acute exaggeration of the normal process of occlusion and atrophy. This view would therefore give precedence to Dieulafoy's well-known theory of the "vase clos" above all the causes enumerated by your contributors.—I am, etc.,

Nice, Dec. 26th, 1910. A. W. GILCHRIST, M.D.

SIR,—Please accept my thanks for a "text" found on p. 1989: "Not a few things which are taught to the student of medicine rest on no solid basis of fact."

When medicine was a pure art, it was taught that the appendix was a functionless organ: to-day the same theory is widely held, hence this problem has not been investigated with an open mind, contrary to one of the golden rules of medicine. If the appendix is functionless why does Nature still persist in endowing us with it? May I ask, What is the normal length of the non-pathological appendix as found in the dissecting rooms in India? Next, what is the appendicitis record of the South African war? There we had an enormous number of men under 30 years old subjected to worry, fatigue, hurry, and irregular meals, generally using the natural mode of defaecation. In the BRITISH MEDICAL JOURNAL, June, 1902, Sir F. Treves says that 80 per cent. males under 30 years is the appendicitis record. It is well known that the disease is commonest in children under 15 years of age; also, in these the normal appendix is relatively longer, wider, and thinner than in the adult. About the fifth year a child begins to use the water-closet, and, according to my idea, does not exercise any great pressure on his appendix. "Forcing at stool" is given as one of the causes of abdominal hernia which fact shows that there must be pressure in the abdominal cavity.

My twenty years' colliery experience may be unique, but I have never seen appendicitis in a collier. Within the next few years this record will be broken, for the colliery managements in my district have installed water-closet seats in the pit conveniences.

Appendicitis will be always with us because a few seeds out of the millions of figs and grapes, etc., that are yearly swallowed are bound to enter the organ. Thousands of pieces of decayed teeth are swallowed, very few enter the appendix, and fewer still would remain there if the organ were helped as Nature intended. I beg to thank all those who have kindly replied to my first letter.—I am, etc.,

Skegby, Notts, Dec. 31st, 1910. W. C. RAINSBURY.

SIR,—Testamentary capacity in law depends upon facts just as conduct plays the most important part in insanity. And in discussing this subject, let us keep briefly to what we know of as likely to produce strangulation of the appendix. Only the other day, at a meeting of the Winchester Division, Mr. Godwin of Winchester read a very interesting paper on The Early History of Appendicitis; which led to the same differences of opinion as the correspondence which has been going on in the JOURNAL since December 3rd, 1910. Thus I beg leave to be allowed to deal with facts.

A little time back I was examining a hen which had been killed and had not presented any symptoms of disease. By an accident I found one of the caecal appendices was blown out like a small sausage. I attempted to squeeze back into the intestine the fluid contents of this much-dilated left appendix. I failed to do so, for I found the lips of the mouth of the duct closed by an inflammatory stricture. I subsequently observed that it was not quite impervious, but was evidently blocked by a species of threadworm. When the tube was opened in a cup of water, gas escaped with a number of vibratile worms, and the contents discoloured the water. The tube was inflamed and thinned. Another few days must have seen a fatal peritonitis. This is not a common cause of peritonitis in the fowl, for it generally arises from a ruptured oviduct.

We are told that the human appendix is of little or no use, but my knowledge of the caecum bereft of its appendix is only hearsay, for I have no practical experience myself on the matter. But as one interested in insane people I have something to say on the subject of the cause of appendicitis.

It is a remarkable fact that some persons suffering from oedema, shortness of breath, languor, and paleness of the the skin (chlorosis) can be practically cured by a course of mist. ferri aperiens. I do not say all. Likewise, I have notes of two cases of mania very much relieved by mist. alba. Not least, I have several patients in my mind suffering from depression, melancholy, and delusions cured by enormous evacuation of faeces by means of blue pill and black draught. And only the other day I heard of a classical case of appendicitis in which I understood from the friends that the patient's bowels had been chronically constipated. And can I not ask how many causes of other diseases are not resident in the intestinal tract? This brings me to the crux of my letter, namely, dietetic errors of modern life leading to vicious processes in the intestinal laboratory with constipation and its consequences.

Whatever effect influenza, excess of animal food, or a quicker swing of the pendulum of modern life may have on the mental and physical side, we cannot get away from the fact that appendicitis appears to be uncommon in asylums for the insane. I would ask my readers to look through the most carefully prepared Blue Books of the Commissioners in Lunacy, notably the Sixty-fourth Report for England and Wales, as ordered by the House of Commons, June 28th, 1910, On the Causes of Death, page 190. Among 105,112 patients (males 49,165, females 55,947) there was only 1 case of death from appendicitis ascertained by *post-mortem* examination—that of a female under 34. Is this not a fact of considerable value when we are regarding the cause of appendicitis; just as much as the fact that insane people in asylums rarely break their bones because they are under the protection of the law.—I am, etc,

Alton, Hants, Jan. 1st. JOHN FREDK. BRISCOE.

MEDICAL OFFICERS OF HEALTH AND THE LOCAL GOVERNMENT BOARD.

SIR,—We venture to hope that the reception, by medical officers of health, of the last order of the Local Government Board will be more cordial than, from the tenor of your leading article, seems probable.

It is true that district and borough medical officers are not yet, at any rate, to enjoy the fixity of tenure of their county and metropolitan brethren; but, only a few months ago we were told that no kind of security of tenure was to be hoped for by part-time officers,

Now we find that the Local Government Board, in granting the present measure of security, do not differentiate, in this respect, between whole-time and part-time officers.

But, we think that the new forms of tenure will be found to be, in practice, quite satisfactory; for many of us have long thought that all really wanted has been the abolition of the "fixed term" with automatic vacation of the post held.

We have, in fact, expressed our belief that, if only medical officers were to be appointed (save for the necessary veto or approval of the Local Government Board) in exactly the same way and under the same terms as district clerks and surveyors, cases of hardship or injustice would be as rare in one case as in the other.

Now, in future, every medical officer of health, whole or part-time, will enjoy even greater security of tenure than any other officer of his authority, unless he happen to be one of the few whose appointment is not subject to the consent of the Local Government Board.

After all, local sanitary authorities are bodies of fair-minded Englishmen; and, as a district councillor recently said to one of us, there is a lot of difference between not re-electing a man whose appointment has come to an end and giving him three months' notice in cold blood.

There are one or two other points in the order, memorandum, and circular which deserve notice; and, first, it is abundantly clear that the Board have no sympathy with the idea of confining the medical officer of health to the "duties of his office."

Particular stress is laid on the absolute necessity of the control of isolation hospitals, outside London, being in the hands of the medical officer of health.

It is true that the Board express the opinion that, "where practicable," medical officers of health should be rendered independent of private practice; but it is equally clear that the "part-timer" is not yet to be abolished.

For the Board, if not indeed damning "combined districts" with faint praise, do inferentially admit the justice of some of the criticisms which have been passed on this method of sanitary administration, and, evidently not entertaining much hope of small districts being able to pay adequate salaries to suitable men, go on to make a new and interesting suggestion.

The effect of this suggestion, if carried out, will be to place the "part-timer" on a firmer basis than ever.

The plan is to induce the "part-timer" now engaged in private practice to swop that part of his work in return for the appointments of police surgeon, factory surgeon, public vaccinator, district medical officer, school medical officer, or some of them. From the point of view of the "part-timer," so recently to be thrown to the wolves—in the "public interests," of course, and also that "whole-timers" might obtain their coveted fixity—an excellent idea! From the departmental point of view, also an excellent idea!

But what have our fellow-practitioners, who at present hold these appointments, and who recently urged that, "in the public interests," *we* should suffer extinction, to say?

Let us hope that, now the Local Government Board have shown them a more excellent way, they will "in the public interests" vacate their respective offices, with the magnanimity so lately expected of *us*, in order that *we* may become pluralistic bureaucrats, and cast off those shackles of practice which have, as we have been told, so long prevented us from doing our duty.—We are, etc.,

F. G. CROOKSHANK, Chairman,
D. A. BELILIOS, Honorary Secretary,
Association of Medical Officers of Health.

London, S.W., Dec. 24th, 1910.

OPHTHALMOLOGICAL QUALIFICATIONS.

SIR,—In the issue of the JOURNAL for December 24th, 1910, "Graduate" writes: "Like the newly instituted diploma of the Oxford University the course of special study demanded and the examination itself falls far short of the thoroughness with which the graduate must devote himself to the study of general surgery for the highest surgical qualifications." And again, further on: "Is it to be inferred that three months is sufficient to make a post-graduate a master of ophthalmology?" Now "Graduate" has been misinformed as to the requirements of the Oxford diploma. One year's special course of study is required in special hospitals or special departments recognized by the Board of the Faculty of Medicine, and only those are recognized where the clinical material is adequate. In addition to this a course of special study at Oxford is required during one term. This course includes systematic and clinical lectures in ophthalmology, lectures on anatomy, physiology, and physiological optics, as well as practical work thereon; also a course of practical pathology and bacteriology. The examination includes all the subjects "Graduate" states to be desirable, and the standard of marks required is that of the F.R.C.S.Eng. It is difficult to understand how a fuller curriculum or more searching examination can be insisted on.—I am, etc.,

ROBERT W. DOYNE,
Reader in Ophthalmology in the University of Oxford.

London, W., Jan. 1st.

"EHRLICH-HATA," OR "606."

SIR,—A few weeks ago I wrote the firm of wholesale druggists I deal with to get me a supply of Ehrlich-Hata—606 (dioxy-diamido-arseno-benzol). They replied that before carrying out my order they thought it might be as well to tell me the price of the drug, namely, 10s. a dose. I need scarcely say my order was off after that. It seems to me that, unless the cost of production is very high, someone is going to make a good thing out of the troubles of our poor syphilitics. In future, old ung. hydrarg. will have to continue to serve the good purpose it has served for so many years, as far as I am concerned.

I would like to ask a question: Do these new preparations of arsenic for hypodermic or intramuscular injection produce effects which cannot be produced by older preparations and methods? Beyond a doubt, we can get the full therapeutic effects of arsenic or mercury by oral administration, and as regards mercury by the epidermic method of inunction. To believe that arsenic or mercury introduced hypodermically can do more or other than arsenic or mercury effectively introduced by any other method is far beyond any effort my credulity is capable of.

I have long ago got rid of the gross superstition that combinations of salines in the form of mineral waters, produce any more or different effects from similar solutions of salts prepared artificially, having proved to my own satisfaction, by multitudinous experiments on myself and many others, that the effects are precisely similar.

I do not feel at all sure that the introduction of massive doses of mercury and arsenic by a hypodermic syringe is an improvement. It may be a convenience to carry out a long treatment by one dose a week, especially in military work, but is it a better and safer method from the patient's point of view? I say emphatically No, it is not; on the contrary, it is a retrograde step, risky and dangerous. I once gave a lady a dose of calomel, as I have done dozens of times before and since. The result in this case was terrific mercurial stomatitis, ulceration, suppuration, agonizing pain, loosening of teeth, and I feared there would be necrosis of the jaw. For six weeks I was very distressed and anxious. In the end all came right, but nothing will ever induce me to inject into any one a massive dose of mercury. How terrible, if mercurial stomatitis declare itself, to know that there is a magazine of mercury somewhere in the muscles that keeps adding to the poisoning of the patient, and over which you have not the slightest control! The same applies to massive doses of arsenic given hypodermically.

I can always produce the full effects of arsenic with liq. arsenicalis, or sodium arsenate given orally, and I can always rapidly do the same with ung. hydrarg. applied epidermically, and, in each of these cases, if effects exceed my desires or safety, I can immediately stop the administration. Give a massive dose of either hypodermically,

and administration—that is, absorption—may go on days or even weeks, though excessive or dangerous effects are being produced. I can imagine no more harassingly anxious and humiliating position for the practitioner than to be compelled to act the bystander whilst the patient is being seriously injured by such a therapeutic misjudgement or mishap as this, and yet be powerless either to do or to undo.—I am, etc.,

Blackpool, Dec. 28th, 1910. WM. HARDMAN.

THE COLOUR-BLIND FACE AND VOICE.

SIR,—I have been greatly interested in Dr. S. H. Taylor's experience of the mental character of the colour blind as described in his letter in the JOURNAL of December 24th, 1910. The face of the colour-blind person, according to Dr. Taylor's observations, has no humour or play of expression in it. Colour blindness, we should therefore conclude, is almost invariably associated with a tendency to melancholia. This conclusion is in remarkable agreement with a theory of colour blindness which I have propounded in the December, 1910, number of *Knowledge*.

Colour blindness has been shown by Allen and others to be associated with an abnormally high persistence of the colour sensation after the cessation of the stimulus. The experiments of Wiersma with a rotating coloured disc have shown that melancholia is also associated with this abnormally high persistence of a colour sensation.

The conclusion that these experiments force upon us is that colour blindness and a tendency to melancholia are both manifestations of the same fundamental property of the neural material of the brain. This property I have endeavoured to show in the article referred to is analogous to high conductivity for the nervous currents.—I am, etc.,

London, S.W., Dec. 29th, 1910. JOHN GRAY.

PUERPERAL FEVER.

SIR,—*Re* puerperal fever in Liverpool.[1] It is not fair to divide cases into two classes only, namely, those attended by doctor and by midwife. I can at the moment think of eight distinct classes:

1. Simple cases attended by midwife alone.
2. Simple cases attended by midwife and doctor.
3. Bad cases attended by midwife and doctor.
4. Bad cases attended by midwife alone at first, doctor being called in when necessity arose.
5. Simple cases attended by respectable experienced unregistered woman and doctor.
6. Bad cases attended by respectable experienced unregistered woman and doctor.
7. Simple cases attended by dirty inexperienced woman and doctor.
8. Bad cases attended by dirty inexperienced woman and doctor.

Nearly the whole of my troubles in nearly thirty years' practice have been in class 7.—I am, etc.,

December 27th, 1910. "G. P."

P.S.—By bad cases I mean cases in which a doctor is required for any purpose.

CONTROL OF VENEREAL DISEASES.

SIR,—That Major French's article in your issue of December 3rd should give rise to discussion is gratifying to all interested in this important subject. He will have little difficulty in defending the extreme course he advocates, but to bring legislation on this question into practical politics the full penalty of publicity and detention must be deleted from the programme.

I would modify both of Major French's postulates to make them possible of early application in this country.

As regards the registration and inspection of prostitutes, it would at least be serviceable as a beginning if the authorities had power to detain in hospital, until free of disease, any prostitute who had been a source of infection. This does not suggest routine inspection and registration, but only the examination of such as were named as having communicated disease, and the clinical evidence would determine the question of her detention. The existing lock hospitals could be used for this purpose.

Notification would be a necessary preliminary to the above, but it would require to be on very different lines to the procedure in ordinary fever cases. The treatment of venereal disease, at least in patients other than prostitutes, has to be accomplished with the assurance of absolute privacy, but notification need not, I think, violate this. It is only a question of method. The private medical attendant need be the only one to interview the patient for the purpose of furnishing the necessary particulars to the medical officer of health, and the patient could be supplied through his medical attendant with literature setting forth the risks of contagion and the measures necessary to protect others. Notification would also enable the authorities to take proceedings against any one knowingly guilty of spreading disease, and it would supply data for further measures of control. Any legislation on these lines would require to include the abolition of quacks attending venereal disease and prescribing by druggists.

That preventable diseases so detrimental to the public weal should be allowed unchecked to depopulate and enfeeble the race is one of the anomalies of present-day science.

It is incumbent on the profession to give a lead to the Legislature, and we should, I think, concentrate on some practicable reform which could not be construed as pandering to immorality nor yet affect the patient's confidence in the secrecy of the consultation.—I am, etc.,

Glasgow, Dec. 26th, 1910. DAVID WATSON.

THE DUAL ORIGIN OF MAN.

SIR,—Professor Klaatsch's theory of the dual origin of man, as stated in the JOURNAL of December 17th (p. 1934), while of profound interest to anatomists of every description, gains some degree of support from the realm of comparative biology. The suggested origins of the Aurignac man from orangs and orangoids and the Neanderthal man—an older race—from gorillas or gorilloids find ready parallel amongst mammalia. Thus the two great groups of monkeys—catarrhine and platyrrhine—though showing great resemblances, are yet (in the phylogenetic sense) so widely sundered that fossil intermediate forms are unknown; hence some claim for these also a dual origin from two separate ancestral stocks. Again the extinct horse of America was descended from the protohippus, a three-toed form which recalls the three-toed hipparion itself, the direct survivor of the surviving horses of Europe.

The humerus of the Aurignac man (and also of the orang) has the spine of the greater tuberosity and also the sulcus intertubercularis almost straight, in sharp contrast to the convex curvature of these structures in Neanderthal man and the gorilla. The Aurignac femur has the trochanter minor higher up the shaft than the corresponding part in the Neanderthal skeleton. To say nothing of the bregmatic angle, of the impressions for the digastric muscle and the curvature of the femur, here alone are characters worthy of specific if not generic rank, anatomist and zoologist will alike eagerly await further investigation of the "homo aurignacensis Hauseri."— am, etc.,

Manchester, Dec. 20th, 1910. GRAHAM RENSHAW, M.B.

THE EXPRESSION OF THE LENS IN ITS CAPSULE.

SIR,—Your correspondent's remarks on "The Expression of the Lens in Its Capsule" in the JOURNAL of December 24th, 1910, p. 2005, at this stage of departure for India, in no way aids the investigation for the following reasons; and I trust that on return from the school where tuition has been offered her, that the day may dawn when not one genius with one method, but many with many methods might rise among us for the benefit of human suffering with suitable provisions for every kind of eye operation, for there are many methods.

1. A new theme has been introduced, with provisos in the second and last paragraph of the letter, which is of no value.

2. No reference has been made to Lieutenant-Colonel Henry Smith's, I.M.S. (his correct name and title without showering so many others) work in the cause of suffering humanity in any of the former articles in any journals I am aware of to depreciate his work and value.

3. Every attitude that is fair has been adopted, and no other form of strategy introduced than that strategy which may be used by ophthalmic surgeons to suit the particular

[1] BRITISH MEDICAL JOURNAL, December 24th, p. 2004.

skill possessed in dealing with his patient's case according to its merits.

4. The whole of the correspondence may be claimed to have been read, but what is read is perhaps not all understood fully at the time, and may be better understood on demonstration than mere reading.

5. It is wiser to limit oneself in such an investigation to facts and statistics, instead of provisos and new themes of controversy. Every one has not the facility, nor provision either, for obtaining journals such as the *Ophthalmic Record* of Chicago for a whole year, awaiting Lieutenant-Colonel Smith's reply in some particular number to be published without giving us the number and date of that publication.

6. In advocating the eclectic method, which has been greatly approved of from the verdict given by authorities, I do not make any claim on Lieutenant-Colonel Smith's technique, nor the instruments devised for the purpose. I only claim what is my own. At the same time, I can only once more refer to my articles in the June and October issues of the *Ophthalmoscope* for careful perusal, in order to show that the provisos and other things strictly and rigidly laid down by Lieutenant-Colonel Smith have not been found necessary in the hands of other skilful surgeons, and yet success might attend the operation if careful diagnosis be made early and the case be treated at the time of operation in accordance with its merits. An "unmutilated pupil" is acknowledged to be the ideal operation with expression of the lens in its capsule both as regards appearance and after-results. If an unmutilated pupil be inadmissible at the time of operation, iridectomy is done, and iridectomy can often be dispensed with under certain conditions I have mentioned in my work, and those are to be diagnosed at the time of operation only.

The average ophthalmic surgeon in performing the eclectic method is safe in doing so in the interests of his patient and his reputation, since even skilful operators who have either seen Smith operate or have followed his technique, *with* or *without* his tuition, have reported unfavourably of his method both on account of accidents, appearance, and after-results. Those results have been reported and upon them a verdict given.

It is possible for some men to achieve much after performing 500 or 1,000 extractions or expressions of the lens by capsulotomy or non-capsulotomy, while others would fail to acquire the same results after performing five, ten, or fifteen, or even twenty thousand. As said of the poet, so of the ophthalmic surgeon, who is born and not made; and those who are not born but made can only achieve skill, delicacy of touch, and all the requirements which go towards success in every sense by very careful observation and prolonged apprenticeship.

I trust that your correspondent on her return from India to this country will be able to give us fresh results and statistics which might cause us to say that she has achieved greater things than her master.—I am, etc.,

London, W., Dec. 24th, 1910. G. H. FINK, I.M.S (ret.).

Universities and Colleges.

UNIVERSITY OF EDINBURGH.

Degrees.

THE following were among the degrees conferred at a graduation ceremony on December 21st, 1910:

M.D.—D. C. Henry, R. T. Herdman, G. W. R. Skene.
M.S.—M. A. Ansari, B.A.(India).
M.B., CH.B.—E. G. Anderson, A. E. C. Beausoleil, B. J. W. Bennetts, G. Burnet, L. D. Callander, T. F. Craig, W. A. Dunn, L. E. Eden, A. C. England, J. Erlank, T. R. Evans, A. J. Ewing, M.A., Annie G. Fergus, A. Galletly, F. P. Gibson, M. E. Goode, R. Govan, M.A., M. Greenberg, J. D. Gunn, B.A., C. C. Iles, Hannah M. Irving, B.Sc., A. B. Jamieson, C. A. Keegan, T. D. Kennedy, M.A., W. D. Kirkwood, E. W. Lawrence, See Foon Lee (China), R. C. Lowther, D. J. M'Afee, W. V. Macaskie, J. D. M'Ewen, M.A., Marian Macintyre, D. J. Maclaren, Elizabeth Macleod, A. M. Masters, D. B. Maunsell, H. M. Mills, S. N. Mokand, F. L. Moore, C. C. Murray, K. A. Rao (India), E. W. Richards, W. R. Ridley, T. R. Sandeman, Charlotte D. Schaeffer, S. C. Sen (India), J. W. Seuter, J. C. Simpson, A. N. Smith, N. W. Stevens, J. Stevenson, D. E. Stoddart, J. R. Stott, G. Sutherland, B. C. Tennent, D. L. Theron, P. H. du Toit, C. Y. Wong (China), N. C. Young.

On the same occasion diplomas in Tropical Medicine were handed to W. H. Forsyth, Captain, R.A.M.C., E. C. C. Maunsell, Captain, I.M.S., and A. Watson; and the Stark Scholarship in Clinical Medicine was handed to D. M. Lyon, M.B., Ch.B.

Examinations.

The following candidates have been approved in the subjects indicated:

FIRST M.B., CH.B.—R. C. L. Batchelor, M.A., B. B. Benison, H. B. Binks, E. P. Caw, F. C. Chandler, W. A. Coats, J. Dunlop, J. D. Evans, B.Sc., E. M. Ferney, H. J. Foote, H. C. Fox, R. E. Gibson, D. C. Graham, J. C. Gunn, E. Jamieson, M.A., W. D. Kiernander, G. M. Levack, A. J. M'Ivor, J. B. P. M'Laren, A. O. Marshall, D. J. Max, F. G. Milne, W. Murdoch, J. C. Neil, Inez E. M. Pender, R. Power, J. O. Reid, F. W. H. Renton, Maung Sett, J. C. Sinclair, Jyotiprokas Sircar, B.Sc., A. H. D. Smith, H. S. Smith, L. J. Spence, J. S. Taylor, A. A. Watson, H. D. Welply, J. A. C. Williams, D. G. Wishart, E. W. N. Wooler.

SECOND M.B., CH.B. (*Anatomy*).—W. R. Addis, E. Allan, J. C. Anderson, R. P. Anderson, L. J. Baeza, I. J. Balkin, W. Bird, G. A. Borthwick, W. A. Bowie, H. Boyle, A. Bremner, H. J. Brink, A. B. Brook, H. A. Brookes, F. R. Brown, R. M. Brown, M.A., W. T. Brown, W. E. Bullock, B.Sc., R. E. Cameron, S. M. F. Cesari, W. K. Chalmers, G. W. Christie, T. W. Clarke, F. A. Correa, A. Cowe, G. Cromie, B.A., Laura K. Davies, C. L. Dold, D. A. Donald, C. Dundee, W. B. H. Dundee, A. J. Dunlop, B. V. Dunn, G. K. Edwards, Isabella Elphinston, F. G. Foster, A. S. Fry, A. S. Glynn, A. Grant, H. P. Haddow, J. N. J. Hartley, H. B. L. Henderson, R. A. Hepple, H. C. Hinood, S. Honeyman, K. Husain, T. D. Inch, Florence E. Inglis, L. F. E. Jeffcoat, I. J. Khaw, F. J. Kirkness, D. A. Laird, W. A. Lethem, R. B. Llewellyn, J. B. Low, G. H. Lunan, J. N. M'Intosh, D. M'Kelvey, Bessie R. MacKenzie, E. L. MacKenzie, H. A. Macmillan, Rosanna E. Macmillan, J. T. H. Madill, D. Martin, G. E. Martin, M.A., A. D. Maxwell, S. C. Mitra, J. B. Mitton, H. M. Moir, R. Montgomery, A. J. M. C. Morrison, W. K. Morrison, K. P. Panikkar, W. Parker, A. E. S. P. Pattison, E. Percival, T. Pullar, M.A., A. Rahman, G. Rankine, K. G. Rao, B.A., J. W. van Reenen, J. K. Reid, D. L. Robertson, D. S. Robertson, M.A., W. J. Robertson, M. S. Ross, C. Scales, L. R. Starples, A. C. Shaw, H. K. Shaw, A. F. Sinclair, R. A. Stark, E. T. A. Stedeford, Isabella Stenhouse, F. G. Thatcher, W. St. Clair Thwaites, M. C. Turiansky, M. A. Wajid, Joseph Walker, J. H. Ward, D. G. Watson, H. W. Wier, G. Williams, H. W. Wilson, W. G. Wyllie, Mg Ba Yin, J. A. Young.

SECOND M.B., CH.B. (*Physiology*).—A. J. T. Allison, S. K. Basu, A. Cameron, D. Campbell, M.A., W. S. H. Campbell, S. C. Chatterjee, T. W. J. Childs, J. H. Cumming, J. W. Darling, Laura K. Davies, W. Duguid, K. D. Falconer, A. S. Glynn, R. W. R. Jones, Margretta J. Keers, Margaret N. MacCallum, Celia M. C. MacNeil, A. C. Mann, S. L. Mitra, S. C. Mitra, R. H. H. Newton, B.A., K. P. Panikkar, A. Rahman, C. D. Rogers, J. A. N. Scott, S. W. H. Stuart, H. Tren, G. T. van der Vijver, Mg Ba Yin, J. S. Crichton.

SECOND M.B., CH.B. (*Practical Materia Medica*).—C. W. Aikman, R. H. Alexander, H. F. Armour, D. C. Barron, M.A., P. W. Carruthers, A. Cohen, K. C. Crosbie, J. M. Donnan, C. E. Dukes, D. O. Fairweather, E. S. Hawkes, F. W. Hird, J. H. G. Hunter, T. W. Jackson, S. G. Kriegler, S. J. A. Laubscher, R. L. Lloyd, Rosanna E. Macmillan, Jean M. M'Minn, M.A., Clare R. Patton, L. J. D. Pawan, H. A. Bippiner, J. S. du Toit, J. B. Young.

THIRD M.B., CH.B.—W. H. Armistead, T. C. Britton, D. L. Brown, A. N. Craig, F. E. Crew, G. M. Elliot, R. Grant, M.A., J. A. Henderson, N. L. Lochrane, J. W. M'Kinney, C. de C. Martin, C. A. Mason, H. G. Parker, Bindeshwari Prasad, S. D. Reid, C. M. Rout, E. St. J. Seelly, R. K. Shaw, R. S. Stevenson, M. Teitelmann, G. ap Thomas, A. H. Towers.

FINAL (*Midwifery*).—J. D. M. Claassens, E. S. Craig, W. E. Fitzgerald, A. Groenewald, S. Hodgkinson, R. H. S. Langeveldt, R. M'Adoo, J. M. Murray, L. H. Skene, R. B. M. Yates.

FINAL (*Medicine and Surgery*).—T. Caul, B. J. O. Hoare, M. J. Hofmeyr, B.A., J. R. M'Gregor, Lucy M. Muir, J. M. Murray, A. Simpson.

FINAL (*All Subjects*).—E. Anderson, A. E. C. Beausoleil, B. J. W. Bennetts, G. Burnet, L. D. Callander, T. F. Craig, W. A. Dunn, L. T. Eden, A. C. England, J. Erlank, T. R. Evans, A. J. Ewing, M.A., Annie G. Fergus, A. Galletly, F. P. Gibson, M. E. Goode, R. Govan, M.A., M. Greenberg, J. D. Gunn, B.A., C. C. Iles, Hannah M. Irving, B.Sc., A. B. Jamieson, C. A. Keegan, T. D. Kennedy, M.A., W. D. Kirkwood, E. W. Lawrence, S. F. Lee, R. C. Lowther, D. J. M'Afee, W. V. Macaskie, J. D. M'Ewen, M.A., Marion Macintyre, D. J. M'Laren, Elizabeth Macleod, A. M. Masters, D. B. Maunsell, H. M. Mills, S. N. Mokund, F. L. Moore, C. C. Murray, K. A. Rao, E. W. Richards, W. R. Ridley, Charlotte D. Schaeffer, S. C. Sen, J. W. Senter, J. C. Simpson, A. N. Smith, N. W. Stevens, J. Stevenson, J. R. Stott, G. Sutherland, B. C. Tennent, D. L. Theron, P. H. du Toit, C. Y. Wong, N. C. Young.

M.D. (*Clinical Examination*).—F. Armstrong, G. S. Blandy, W. L. Burgess, M. Carthew, G. L. Cawkwell, F. W. Cragg (Captain, I.M.S.), I. D. Dickson, W. H. Dickinson, G. H. Garnett, A. W. Gill, W. T. Graham, A. G. M. Grant, A. G. Hamilton, J. Henderson, A. E. Hodgson, G. R. Inglis, A. M. Jones, W. R. Logan, P. Macdiarmid, H. D. MacPhail, R. C. MacQueen, T. H. R. Mathewson, John D. de W. Molony, J. A. Mortimer, A. C. Norman, Julia L. Pringle, A. N. Robertson, D. G. Robertson, John M. Scott, F. Shannon, G. W. R. Skene, G. W. Smith, H. H. Thorburn, W. S. Watson, T. Welsh, J. D. Wilson, M.A.

UNIVERSITY OF LEEDS.

Degrees.

THE following were among the degrees conferred at a Congregation on December 22nd, 1910:

M.B., CH.B.—J. P. Brown, W. S. Hart, H. N. Ingham, *J. P. Musson, C. G. K. Sharpe, *B. A. Slowcombe, *G. V. Stockdale,
*Second class honours.

Examinations.

The following candidates have been approved at the examinations indicated:

SECOND M.B., CH.B. (*Anatomy and Physiology*).—L. H. Butler, W. A. Drake, J. C. Gillies, H. R. Knowles, P. K. Merron, H. Sinson, H. L. Taylor, C. Ward.

THIRD M.B., CH.B.—PART I (*Pathology and Forensic Medicine and Public Health*).—F. Wigglesworth, B. W. F. Wood.

FINAL D.P.H.—P. W. Ashmore, W. M. Hitchins, J. H. Mason.

UNIVERSITY OF LONDON.

MEETING OF THE SENATE.

A MEETING of the Senate was held on December 14th, 1910.

Recognition of Teachers.

The following teachers were recognized as teachers of the University in the subjects indicated:

Guy's Hospital Medical School. — Mr. William Mayhew Mollison (Aural Surgery), Mr. Philip Turner (Clinical Surgery).

University College Hospital Medical School. — Dr. Hugh Morriston Davies (Clinical Surgery), Dr. Thomas Renton Elliott (Clinical Medicine), Dr. Archibald Montague Henry Gray (Dermatology).

Hospital for Consumption.—Dr. James Dundas Grant (Aural Surgery and Laryngology).

Lectures in the Physiological Laboratory.

A course of lectures on "Gaseous Exchanges taking place in the Blood" will be given by G. A. Buckmaster, M.D., and J. A. Gardner, M.A., F.I.C., on Tuesdays, at 5 p.m., during the third term. The lectures are addressed to advanced students of the University and to others interested in physiology. The course has been recognized as a course of advanced lectures which a candidate for the B.Sc. (Honours) Examination in Physiology may name for part of his examination. Any member of a London school of medicine, whether an undergraduate of the University or not, is entitled to admission to this course.

Advanced Lectures in Physiology.

The following courses of advanced lectures in physiology will be given during the second term:

1. Eight lectures on "Hydrolysis and Enzyme Action," by H. E. Armstrong, F.R.S., and E. Frankland Armstrong, D.Sc., in the Chemistry Lecture Theatre, City and Guilds College, Exhibition Road, S.W., on Tuesdays, beginning February 7th, at 5 p.m.

2. Eight lectures on "Physiological Significance of Amines," by H. H. Dale, M.D., at University College, on Fridays, at 4.30 p.m., beginning on January 20th.

3. Four lectures on "Recent Progress in Physiological Chemistry," by Otto Rosenheim, Ph.D., at King's College, on Mondays, January 30th, February 13th, February 27th, and March 13th.

4. Eight lectures on "The Physiology of the Embryo and the Newly-Born," by M. S. Pembrey, M.D., in the Physiological Theatre, Guy's Hospital, at 4 p.m., on Thursdays, beginning January 19th.

5. Eight lectures on "Coagulation of the Blood, Muscle, and Milk," by John Mellanby, M.D., at St. Thomas's Hospital, on Wednesdays, at 4.30 p.m., beginning on January 18th.

Courses 1, 2, 4, and 5 have been recognized by the Senate as courses of advanced lectures which a candidate for the B.Sc. (Honours) examination in physiology may name for part of his examination.

Lectures by the Professor of Protozoology.

A course of twenty-one lectures on "The Protozoa" will be given at the Lister Institute of Preventive Medicine, Chelsea, by Professor E. A. Minchin, M.A., Professor of Protozoology in the university, on Mondays, Wednesdays, and Fridays during the second term, at 5 p.m., beginning on January 16th. Each lecture will, when possible, be followed by exhibits of microscopical preparations illustrative of the subject of the lecture.

The course is intended to provide instruction (*a*) to students passed the intermediate stage—that is, to those preparing for the B.Sc. examination, pass, or honours, or those taking "protozoa" as a special subject for the B.Sc. examination—or to those preparing a thesis upon the group for the D.Sc. degree; (*b*) for medical men and others interested in the practical aspects of protozoology. The course is open free (1) to all members of the university; (2) to all medical men or registered medical students; (3) to other persons on application to the Academic Registrar.

Advanced Lectures in Zoology.

A course of three lectures on "The Comparative Anatomy of the Vertebrate Ear" will be given by Mr. R. H. Burne, M.A., at the Royal College of Surgeons, Lincoln's Inn Fields, W.C., on Thursdays, January 19th, 26th, and February 2nd, at 5 p.m.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

The Fellowship.

THE following gentlemen have been admitted to the Fellowship:

R. Alcock, A. G. Banks, H. C. Buckley, Captain I.M.S., G. A. Carter, W. Dykes, N. E. Gibbs, C. L. Isaac, A. I. Mader, C. W. F. Melville, Captain I.M.S., A. A. W. Petrie, R. Y. Stones, H. B. Thomson, L. E. B. Ward, W. J. A. Webster.

LONDON SCHOOL OF TROPICAL MEDICINE.

THE following candidates were approved at the examination held at the end of the thirty-fourth session:

†H. G. S. Webb, Captain I.M.S.; †J. H. Murray, Captain I.M.S.; †R. St. John Brooks; †H. C. Keates, Captain I.M.S.; †F. V. O. Beit, Captain I.M.S.; †W. M. Anderson, Captain I.M.S.; †L. E. Gilbert, Captain I.M.S.; *†J. Donnelly, *†W. G. Watt, †C. A. Lane, Major I.M.S.; *A. J. Smith, *C. S. Thompson, *K. B. Allan, H. G. Barrie, *L. H. Booth, Miss N. G. Cotton, *G. Rollason, Miss I. Kahn, *W. A. Ryan, F. T. Wills, R. S. Roper, *J. F. W. Ward.

† Passed with distinction. * Colonial Medical Service.

Medico-Legal.

WORKMEN'S COMPENSATION ACT, 1906.

Injured Workman and Medical Examination.

THIS was a stated case in the Court of Session, Edinburgh, on December 24th, 1910, before Lord Justice Clerk and Lords Dundas, Ardwall, and Salvesen, under the Workmen's Compensation Act, 1906, in an arbitration in which the appellant, David Morgan, High Blantyre, claimed an award of compensation from the respondents, Wm. Dixon (Limited), Blantyre Colliery, in respect to an injury to his left foot, which injury was alleged to have been sustained while he was employed by the respondents as an underground driver on June 3rd, 1910. After the petition for an award of compensation had been presented, the respondents required the appellant to submit himself for examination by a medical practitioner provided and paid by them under Section 4 of the First Schedule of the Act. The appellant, however, refused to submit to such an examination unless upon condition that his own medical attendant should be present throughout the examination. The respondents refused to accede to this condition, and contended that the appellant's refusal to submit himself to medical examination unless on the condition specified amounted to obstruction in terms of the section referred to. They lodged a minute in the arbitration craving the court to sist the application until the appellant submitted himself for medical examination in terms of the statute. Parties were heard on the minute and it was conceded in argument that there was no special circumstance in the appellant's case which called for the presence of his medical attendant at the examination, his contention being that it was the right of the workman in every case, without alleging any special reason, to have his medical attendant present at the examination, and to refuse to submit to examination unless and until the employers consented thereto. Sheriff-Substitute Thomson, the Arbiter, while willing to consider any special grounds which might be expedient that the appellant's medical attendant should be present, held that the appellant's contention was not well founded, and he accordingly granted the crave of the minute, and sisted the application.

The division upheld the judgement of the sheriff-substitute and found the respondents entitled to expenses, their view being that, apart from any special circumstances in a particular case, a workman was not entitled to have his own doctor present throughout the examination by the medical practitioner on behalf of the employers in terms of Section 4, and that the refusal of the appellant to submit to examination unless his own doctor was allowed to be present amounted, in the circumstances of this case, to a refusal in terms of Section 4. The Lord Justice Clerk said that parties on both sides had stated that this was a question which they desired to be settled, and he took it that the appellant was the representative of the whole class of workmen in the desire to have the question determined whether under Section 4 a workman was entitled, as matter of right, to refuse to submit himself for examination by a medical practitioner provided and paid by the employer unless his own medical man were present. His lordship had no hesitation or difficulty in deciding that a workman was not so entitled. The purpose of the examination by the employer was the legitimate and proper purpose that he, through one who might as a man of skill give him an opinion of the man's then condition, consider whether he would go to arbitration or agree to give reasonable compensation to the man who was injured. The employer was entitled to have that examination made, without being interfered with by anybody, by a properly qualified medical practitioner. If his lordship thought that any case previously decided had determined the point now maintained by the appellant he should consider that the case required to be dealt with by a full bench. But in none of the cases quoted was such an abstract decision given. In the present case the circumstances stated by the sheriff-substitute indicated that this was not a reasonable refusal.

Lord Ardwall, who concurred, said that if the question in the case was decided in favour of the appellant it would mean that a workman in all cases had an absolute right to refuse to be examined unless his own medical man were present. It appeared to his lordship that it was out of the question that any such rule should be laid down. There might be cases in which it was exceedingly proper that a workman should have his own medical man present. One could imagine dozens of such cases where, for example, the workman might be subject to an affection of the heart, or something of that kind. Special circumstances must always be taken into account.

Lords Dundas and Salvesen concurred.

Heart Disease or Accident.

In a case lately tried it appeared that the deceased was a man aged 40, and the contention was that on July 24th, 1910, his death was caused by the strain of pushing full tubs of coal operating upon a condition of body (dilated heart and aneurysm of the aorta) which was such as to render the strain fatal. A *post-mortem* examination had been held, and it had been found that the whole of the deceased's organs were sound, with the exception of the heart. Medical witnesses were called to say that the condition of the heart was such that the strain of pushing the tubs was responsible for the deceased's death in the particular way in which it happened. The applicant's solicitor relied on Clover Clayton and Co. *v.* Hughes, heard in the House of Lords in March, 1910. In that case a

workman, suffering from a large aneurysm of the aorta, was doing his work in the ordinary way by tightening a nut with a spanner, when this ordinary strain caused a rupture of the aorta, resulting in death. It was held that the workman had died from personal injuries by accident within the meaning of the Act. "It seems to me enough," the Lord Chancellor said, "if it appears that the employment is one of the contributing causes, without which the accident which actually happened would not have happened, and if the accident is one of the contributing causes, without which the injury which actually followed would not have followed."

Dr. Fraser, Dr. Roocroft, Dr. Campbell, Dr. Hartley and Dr. Monks were present at the *post-mortem* examination. The whole of the organs were healthy except the heart. The left ventricle was dilated and the aorta valves were thickened, there being calcareous deposits on each valve. There were also calcareous deposits around the coronary artery. The first part of the aorta was dilated, and the valves were incompetent. Dr. Monks and Dr. Fraser expressed the opinion that, considering the condition of the deceased's heart, the work he was doing at the time was sufficient to cause syncope.

Dr. T. Campbell said he was called to the deceased when he was brought out of the pit, and he was also present at the *post-mortem* examination. The condition of the deceased's heart might have applied to a man of seventy instead of forty. Any slight exertion might have brought about death.

In reply to the judge, Dr. Campbell said this would throw extra work on a heart which was sufficiently diseased to give out without extra work. The substantial cause of death was syncope from a diseased heart.

Dr. Mitchell Roocroft also gave evidence, and said the man's condition was such that he might have died at any time.

His Honour, in reviewing the evidence, said there was some little difference in the evidence of the doctors, although they did not disagree he thought as to the actual state of the man's heart. It was a very long-standing disease, and the heart was in such a condition they all agreed that any exertion, however slight, might at any time have produced death. He had to apply the evidence to the proposition of the law as laid down by the highest court in the country. In the case that had been referred to, the Lord Chancellor said: "It may be that the work has not, as a matter of substance, contributed to the accident, though in fact the accident happened while he was working. In each case the arbitrator ought to consider whether, in substance, so far as he can judge in such a matter, the accident came from the disease alone, so that whatever the man had been doing it would probably have come all the same, or whether the employment contributed to it. In other words, did he die from the disease alone or from disease and employment taken together, looking at it broadly. Looking at it broadly, I say, and free from over-nice conjectures, was it the disease that did it, or did the work he was doing help in any material degree?" That was a judgement which he must take fairly into consideration, His Honour added, and in the present he was of opinion it was not made out that death was contributed to by any exertion the man was doing. Looking at it broadly and in substance, this man died from heart disease, and His Honour said he could not find as a fact that the work he was doing contributed to his death. Under the circumstances he must give an award for the respondents.

Medico-Ethical.

The advice given in this column for the assistance of members is based on medico-ethical principles generally recognized by the profession, but must not be taken as representing direct findings of the Central Ethical Committee, except when so stated.

THE DOOR-PLATE AGAIN.

H. M.—It is not unusual for the door-plate to contain the name of the practitioner with the word "Surgeon," although he is a general practitioner. It is unusual for a consulting surgeon or a specialist to indicate his line of practice as suggested—for example, "Ophthalmic Surgeon."

MEDICAL ETIQUETTE.

Our attention has been called to a paragraph in the *Times* under the above heading, giving an account of an inquest held on a collier who died in consequence of a fall of binde in the pit where he was employed. We cannot conceive it possible that a medical man would refuse on any scruple of medical etiquette to do his best to restrain bleeding, and as the doctor accused of so acting was not called and his explanation has not been heard, we cannot accept the accusation as proved, for where life is at stake no consideration of medical etiquette would hinder a medical practitioner from rendering such aid as it might be in his power to give.

TRANSFER APPOINTMENTS.

Clovel.—A. sold his practice, including appointments, to B. on the condition that he was to refund one and a quarter years' purchase of any appointment that B. did not succeed in getting transferred to him. After B. had succeeded to the practice, he was appointed temporarily to one of the appointments for about nine months, the said appointment being then given to another practitioner. A. wishes to know whether the amount of salary paid to B. during the nine months ought not to be deducted from the amount he has agreed to pay B. for the loss of this appointment.

*** As B. has not succeeded in retaining this appointment, he would appear to be entitled to the full amount agreed upon. The fees received by him during the nine months can only be regarded as payment for the work done during that time.

Obituary.

WILLIAM BAIRD McQUITTY, M.A., M.D.,

SENIOR ASSISTANT PHYSICIAN, ROYAL VICTORIA HOSPITAL, BELFAST.

It was with the deepest regret that the announcement of the death of Dr. McQuitty was received by both the profession and the public in the North of Ireland; the event occurred with tragical suddenness and unexpectedness. He had been for a short holiday to England, owing to somewhat troublesome headache and insomnia, but was otherwise in excellent health and spirits. On the forenoon of December 31st it is said he asked for the postponement of a consultation till the afternoon, but later he sent for his friend, Dr. Leathem, who had been doing his work. The gravity of the case was recognized and a consultation held, but he sank into coma; in the evening he partially recovered consciousness and asked what his pulse was, but later relapsed into coma and died towards midnight.

Dr. McQuitty was a man of a high type of character. His school, college, and university careers were remarkable; he gained school exhibitions giving him free tuition at the Royal Academical Institution and other valuable prizes, and he carried off the first scholarship in three successive years in the junior, middle, and senior grades respectively of the intermediate examinations. He entered Queen's College, Belfast, in 1881, and gained many scholarships and prizes, including first honours in chemistry, first honours and first place in experimental science at both B.A. and M.A. examinations. In medicine his career was equally distinguished; he was considered easily the best man of his year, and took the degrees of M.Ch. and M.A.O. with honours; but even his immense capacity and steady nerve for once played him false, and he was only recommended for honours in the M.D. instead of getting first place with first-class honours, which was considered his due. He obtained the university studentship of the late Royal University, worth £500. He is said to have obtained over £800 worth of studentships, scholarships, and prizes in the Queen's College. Dr. McQuitty subsequently studied at the Rotunda Hospital in Dublin, the Great Ormond Street Hospital for Children, and at the London Hospital, where he clerked for Dr. Hughlings Jackson. He acted as house-surgeon and house-physician in the old Royal Hospital, Belfast, and then entered into practice. He obtained the Cambridge D.P.H. shortly afterwards. He was appointed physician to the Ulster Hospital for Children, and medical officer to the Constabulary of the East District of Belfast; both of these appointments he subsequently gave up. In 1900 he was appointed Assistant Physician to the Royal Victoria Hospital; here he had scope for his powers of teaching, and his name soon became synonymous with painstaking exactitude and completeness, and clearness of demonstration; nothing was taken for granted; nothing was left undone; he held it morally wrong, no matter how great the hurry, to scamp a case; he refused to see cases if it were a physical impossibility to complete the examination. His notes were full and carefully recorded in shorthand.

As he had forced himself to the foremost place in his academic career by the capacity of his brain and his unsparing work, so he later was forcing himself to the foremost ranks of physicians in Ulster. He was singularly free from self-advertisement or "splash"; his work was his true recommendation. Many of his friends thought him worthy of a wider field and a more daring ambition. But he always did the work immediately at hand, and he would have tackled the problem of the defence of the Empire with the same spirit—the spirit of mastery of detail, of accuracy, of absolute trustworthiness, of logical sequence—with which he brought into clear relief the

phases of an obscure nervous case. His contributions to the medical societies were few but valuable.

Dr. McQuitty seemed to touch nothing he did not succeed in. He enjoyed his life; in summer he always took a good holiday, and he had visited most parts of Europe and some of America; he was particularly fond of Switzerland, and knew it well. He had musical tastes of a high order, and more than one church organist has been indebted to him not merely for medical advice but also for relief of work during church service. His personal characteristics gained him hosts of friends, both amongst the profession and the public; he was quiet and unassuming, but, if wrong or jobbery were suspected, an outspoken opposition soon developed.

His death is a serious loss to the Medical School and to the province; the regret is keen in every one, especially as it is but too clear that his strenuous and unremitting labour must have been the primary cause of his death at the age of 48. Dr. McQuitty was unmarried. Much sympathy is felt with his sister and two brothers.

SIDNEY J. RODERICK, M.B., C.M.,
LLANELLY.

IT is with great regret that we record the death of Dr. Sidney J. Roderick, which occurred on December 12th at his residence, Vauxhall, Llanelly, Carmarthenshire, in his forty-sixth year. Dr. Roderick was educated at Marlborough and Edinburgh University, where he had a successful career. He graduated M.B. and C.M. in 1887.

At an early age he acquired the extensive practice of his uncle, the late Dr. Buckley, of Bradbury Hall, Llanelly.

Dr. Roderick was Medical Officer of Health for the Llanelly urban area, Certifying Factory Surgeon, Medical Inspector of Schools, Medical Officer to the Police and various industrial concerns in the town, and was engaged in private practice.

His death in the prime of life is felt as a severe blow both by his fellow practitioners and the members of his Division of the British Medical Association, and by the public. By all who knew him he was regarded as the soul of honour, and as being always actuated by the highest motives. Whatever he did or said was always accepted as the result of deliberate and conscientious effort by one who rarely changed his mind after arriving at a conclusion.

Of a retiring and reserved disposition, Dr. Roderick avoided publicity and loathed public applause. He delighted in the shaded nooks of professional life, away from the public gaze, and in such spots only was his work to be seen; had it been exposed to the public gaze in direct sunshine and nurtured by push and tact it would, in comparison, have dwarfed much work that has arrested public attention. He was a patient investigator, with a gift for research; he was one of the pioneers of x-ray and of opsonic work in South Wales, and latterly of radio-therapy, of which latter material he had a valuable supply.

Dr. Roderick was a valuable and faithful member of his Division, but, although allowing himself to be nominated to any committee of which he always gave of his best, he declined every official position. The outstanding features in the character of this lovable man were a gentleness of disposition, a kindness of heart that knew no bounds, and an unfailing courtesy even to the poorest, and these sufficed to make probably the most beloved and respected man in his native town, where his sweet influence will live for many generations.

He leaves a widow and two children to mourn his loss.

Contract Medical Practice.

G. E. L. asks: Does the 4s. or 5s. annual subscription that members of all clubs pay for medical and surgical attendance include consultations with other medical men?

*** The answer to this question must depend on the terms of the contract. We are informed that there is usually no written contract, and practitioners of special experience to whom we have referred the matter state that it is not usua for a club doctor to charge a fee for consultation.

Medical News.

THE second Hunterian Society lecture will be delivered at the London Institution, Finsbury Circus, E.C., on Wednesday, January 11th, at 8.30 p.m., by Mr. D'Arcy Power; the subject will be loose cartilages and the results of their surgical treatment. All members of the medical profession are invited to attend.

THE next meeting of the Westminster Division will be held at the Criterion Restaurant on Thursday, January 12th. Dinner will be held at 7.30 p.m. Dr. Goodall, Honorary Secretary of the Metropolitan Counties Branch, will read a paper entitled, "On Some Points Connected with the Serum Treatment of Diphtheria." All members of the Association are invited to attend.

A MEETING of the Hampstead Division will be held in the Central Library, Arkwright Road, N.W., on Friday, January 13th, at 4.30 p.m. A paper on State Sickness and Invalidity Insurance will be read by Dr. Rowland Fothergill.

THE fifth annual dinner of past and present students of the Royal London Ophthalmic Hospital will take place at the Imperial Restaurant, Regent Street, on Wednesday, February 8th, when Mr. Priestley Smith, will take the chair at 7.43 p.m. Each student is entitled to introduce two guests. Tickets (10s. 6d. each, exclusive of wine) may be obtained from either of the honorary secretaries, Mr. Arnold Lawson, 12, Harley Street, and Mr. J. Herbert Parsons, 54, Queen Anne Street, London, W.

AT the request of the Military Education Committee of the University of London, the Principal has issued invitations to universities and colleges providing contingents of the senior division of the Officers' Training Corps to appoint representatives to a conference to be held at an early date to consider various questions relating to discipline and organization in the contingents.

THE next meeting of the Society for the Study of Inebriety will be held in the rooms of the Medical Society of London, 11, Chandos Street, Cavendish Square, W., on Tuesday, January 10th, at 4 p.m., when the President, Dr. T. B. Hyslop, will open a discussion on the influence of parental alcoholism on the physique and ability of offspring.

The customary course of post-graduate lecture at the Hospital for Sick Children, Great Ormond Street, W.C., will be given this session. The first lecture will be by Mr. Corner, on January 12th, on the functions and diseases of the vermiform appendix, and the second by Dr. Thursfield, on January 19th, on purpura, at 4 p.m. on each day. These lectures are free to all practitioners. In addition there are special post-graduate courses at the hospital for which fees are charged.

Letters, Notes, and Answers.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

H. G. S. asks for a serviceable local application for chilblains.

ANSWERS.

W. G. F.—The following work will probably answer our correspondent's requirements: *A Practical Treatise on Fractures and Dislocations.* By L. A. Stimson. 6th edition. London: Kimpton, 25s. net.

URINE TESTING.

J. J. B.—We think that of the smaller books French's *Medical Laboratory Methods and Tests*, second edition (London: Baillière, Tindall and Cox, 1908, 5s.); and of the larger Dixon Mann's *Pathology and Physiology of the Urine* (London: Charles Griffin and Co., 1908, 10s. 6d.) would best meet our correspondent's requirements.

ARSENIC IN COAL TAR SOAP.

G.D.—There is no reason for supposing that coal tar soap contains any arsenic beyond the minute traces that are to be found in most materials containing, or made from, commercial alkali; there can be no doubt that the principal makes of this soap do not contain more than such negligible traces. It is quite practicable to detect the presence and determine the amount of arsenic, even if the quantity be very small indeed.

OPHTHALMOSCOPIC LAMP.

MR. CLEMENTS HAILES, Consulting Surgeon to the Bristol Eye Hospital, writes to call attention to an ophthalmoscopic lamp designed by himself, which he thinks would meet the requirements of the correspondent who recently asked for such a lamp for use in school examinations. The light is furnished by an electric lamp to which the current is supplied by an accumulator or portable dry battery. The lamp is made by King and Co., Park Row, Bristol, who will supply one on trial to medical men. The apparatus consists of a metal cylinder attached by a clip to the ophthalmoscope by a jointed arm. In the top of the cylinder is a convex lens of 1 in. focus, and in the bottom an Osram surgical bulb lamp. The jointed arm allows the rays to be focussed accurately on the mirror; if pulled out it can be used for focal illumination or any examination requiring a powerful ray of light. The attachment can be used for examination by the direct or indirect method without changing the position of the mirror.

TEXTBOOKS IN GENERAL USE FOR THE M.B., B.S.LOND.

DR. ALLAN C. PARSONS (N. Nigeria).—Our correspondent will doubtless find books that will meet his requirements from the following list:

MEDICINE.—*The Principles and Practice of Medicine.* By W. Osler. Seventh edition. (London: Appleton and Co., 1909, 21s.) *A Manual of Medicine in Five Volumes.* By W. H. Allchin. (London: Macmillan and Co., 1903, 10s. each.) *A Manual of the Practice of Medicine.* By F. Taylor. Eighth edition. (London: J. and A. Churchill, 1908, 16s.) *A Manual of Medicine.* By T. K. Monro. (London: Baillière, Tindall, and Cox, 15s.) *A Manual of the Practice and Theory of Medicine.* By Sir W. Whitla. In two volumes. (London: H. Renshaw, 1908, 32s.) For reference purposes: *A System of Medicine.* By Sir Clifford Allbutt and H. D. Rolleston. (London: Macmillan and Co., Limited, 1910, 25s. each.) *A System of Medicine.* By W. Osler and T. McCrae. (London: H. Frowde, and Hodder and Stoughton, 1909, 30s.)

SURGERY.—*The Practice of Surgery.* By W. G. Spencer and G. E. Gask. (London: J. and A. Churchill, 1910, 22s.) *A Manual of Surgery for Students and Practitioners.* Seventh edition, University Series. By W. Rose and A. Carless. (London: Baillière, Tindall, and Cox, 1908, 21s.) *Manual of Surgery.* By A. Thomson and A. Miles. In two volumes: Vol. I, General Surgery; Vol. II, Regional Surgery. Third edition. (Edinburgh, Glasgow, and London: H. Frowde, and Hodder and Stoughton, 1909, 10s. 6d.). For Operations: *Manual of Operative Surgery.* By H. J. Waring. Third edition. Oxford Medical Publications. (London: H. Frowde, and Hodder and Stoughton, 1909, 12s. 6d.) *A Manual of Operative Surgery.* By Sir F. Treves and J. Hutchinson. In two volumes. (London, New York, Toronto, and Melbourne: Cassell and Co., 1910, 36s.) *A Manual of Surgical Treatment.* In six parts. By W. W. Cheyne and F. F. Burghard. (London: Longmans, Green, and Co., 1903, 21s. each.) *A System of Operative Surgery.* In four volumes. By F. F. Burghard. (London: H. Frowde, and Hodder and Stoughton, 1909, 36s. per vol.) The larger English textbooks of surgery are out of date, but *Surgery, its Principles and Practice*, by W. W. Keen and J. C. Dacosta; in five volumes (Philadelphia and London: W. B. Saunders Co., 1909, 50s.) is popular.

BACTERIOLOGY.—*A Manual of Bacteriology, Clinical and Applied.* By R. T. Hewlett. Third edition. (London: J. and A. Churchill, 1908, 10s. 6d.) *Manual of Bacteriology.* By R. Muir and J. Ritchie. Fifth edition. (London: H. Frowde, and Hodder and Stoughton, 1910, 10s. 6d.)

CHILDREN'S DISEASES.—*Lectures on Diseases of Children.* By R. Hutchison. Second edition. (London: E. Arnold, 1909, 8s. 6d.) *The Diseases of Infancy and Childhood.* By L. E. Holt. Fifth edition. (New York and London: D. Appleton and Co., 1909, 25s.) *The Diseases of Children.* By J. F. Goodhart and G. F. Still. Ninth edition. (London: J. and A. Churchill, 1910, 15s.) *The Diseases of Children, Medical and Surgical.* By H. Ashby and G. A. Wright. Fifth edition. (London: Longmans, Green and Co., 1905, 21s.)

DERMATOLOGY.—*Diseases of the Skin.* By M. Morris. New edition. (London: Cassell and Co., 1903, 10s 6d.) *Diseases of the Skin.* By H. Radcliffe Crocker. Two volumes. (London: H. K. Lewis, 1902, 28s.)

FORENSIC MEDICINE.—*Medical Jurisprudence and Toxicology.* By F. J. Smith. Second edition. (London: J. and A. Churchill, 1908, 8s. 6d.) *Forensic Medicine and Toxicology.* By J. D. Mann. Fourth edition. (London: C. Griffin and Co., Limited, 1908, 21s.)

GYNAECOLOGY.—*Gynaecology.* By T. W. Eden. (London: J. and A. Churchill, 15s.) *Diseases of Women; a Clinical Guide to their Diagnosis and Treatment.* By G. E. Herman. Revised edition. (London: Cassell and Co., Limited, 1907, 25s.) *A Short Practice of Gynaecology.* By H. Jellett. Second edition. (London: J. and A. Churchill, 1903, 10s. 6d.) *A Practical Textbook of the Diseases of Women.* By A. H. N. Lewers. Sixth edition. (London: H. K. Lewis, 1903, 10s. 6d.) *Diseases of Women.* By J. Bland-Sutton and A. E. Giles. Sixth edition. (London: Rebman Limited, 1909, 11s.)

HYGIENE.—*Hygiene.* By J. L. Notter and R. H. Firth. Sixth edition. (London: Longmans, Green and Co., 1905, 4s. 6d.) *Hygiene and Public Health.* By L. C. Parkes and H. R. Kenwood. (London: H. K. Lewis, 1907, 10s. 6d.) *Hygiene and Public Health.* By B. A. Whitelegge and G. Newman. New edition. (London: Cassell and Co., 1908, 7s. 6d.)

OBSTETRICS.—*A Manual of Midwifery.* By T. W. Eden. Second edition. (London: J. and A. Churchill, 1908, 12s. 6d.) *Difficult Labour, a Guide to Its Management for Students and Practitioners.* By G. E. Herman. (London, New York, Toronto, and Melbourne: Cassell and Co., Limited, 1910, 12s. 6d.) *A Short Practice of Midwifery. For Nurses as Used in the Rotunda Hospital, Dublin, for the Past Ten Years.* By H. Jellett. Third edition. (London: J. and A. Churchill, 1908, 6s. 6d.) *The Practice of Midwifery.* By A. F. Galabin and G. Blacker. Seventh edition. (London: J. and A. Churchill, 1910, 18s.)

PATHOLOGY.—*The Principles of Pathology.* By J. G. Adami. In two volumes. Vol. i, General Pathology; vol. ii, Systemic Pathology. (London: H. Frowde, and Hodder and Stoughton, 1909, 30s. each.) *A Manual of General or Experimental Pathology.* By W. S. Lazarus-Barlow. Second edition. (London: J. and A. Churchill, 1903, 21s.) *Pathological Anatomy and Histology.* By W. S. Lazarus-Barlow. (London: J. and A. Churchill, 1903, 24s.) *Introduction to Pathology and Morbid Anatomy.* By T. H. Green. Tenth edition revised by W. C. Bosanquet. (London: H. Renshaw, 1905, 18s.) *Pathology: General and Special.* By H. T. Hewlett. (London: J. and A. Churchill, 10s. 6d.)

TROPICAL DISEASES.—*Tropical Diseases.* By Sir Patrick Manson. New edition. (London: Cassell and Co., 1903. 10s. 6d.)

LETTERS, NOTES, ETC.

A BICYCLE APPLIANCE.

AN appliance recently submitted to our examination is worth noting by medical men who use bicycles much in the course of their work. It is a device for carrying bags and small parcels in such fashion as not to incommode the rider, or make mounting difficult, or alter the natural balance of the machine. Its construction is of the simplest character, a piece of thick steel wire being doubly twisted on itself so as to form a collar round the steering pillar and two deep hooks which rest in front of the handles. It is as easy to take off as to put on. The inventor and manufacturer is Mr. T. Mapleston, 50A, Lambrook Terrace, Fulham Palace Road, S.W. The price is 6½d.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Eight lines and under	0	4	0
Each additional line	0	0	6
A whole column	2	13	4
A page	8	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste Restante* letters addressed either in initials or numbers.